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Weekes's Lectures on Art.

SPEAKING more strictly, these, which are the lectures* given by the late Henry Weekes as Academy Professor of Sculpture, should be entitled Lectures on Sculpture, as it is to his own art that the lectures are mainly confined, and other branches of art, as well as art literature, are dealt with only as they refer to or throw light upon the sculptor's art. The photographs of Weekes's own productions, with which the book is embellished, have no direct reference to the lectures, and are added merely as giving an additional interest to the book, as a record of the work and the opinions of the deceased sculptor. The subjects for the photographs are happily selected, and give a good record of Weekes's best qualities, illustrating very well, among other points, his feeling for repose and balance of composition, as manifest especially in his two ideal subjects, each presenting a mother and child, "The Mother's Kiss" and "The Suppliant." In each may be remarked the unity and completeness with which the two figures are combined so as to give concentrated expression to one thought and action, and the fine pose and full contour of the female figures. The composition in the "Suppliant" is exceptionally excellent in the way in which all the lines of the group harmonise without any appearance of contrivance, and in the sculpturesque repose and stability of the whole, which forms, in fact, a very good illustration of some of the principles enforced in the lectures. The portrait statues of John Hunter and of Lord Auckland are also very happily chosen as examples of the treatment of this class of work by the pupil of the great portrait-sculptor, Chantrey.

Weekes began his studies as a pupil of the erratic sculptor Behnes, or rather was allowed to make himself useful in the studio, and look on while Behnes modelled, which he seems to imply was about all that Behnes's pupils got. The life must have been an uncomfortable one, Behnes having been of the order of shiftless, dissipated, and impecuniary genius, with everything at odds and ends in the house and studio, and scarcely any money even for necessaries: his pupils were made, it would seem, to fill to some extent the office of servants. Weekes was, however, a very regular student at the Royal Academy, and at the end of his apprenticeship was fortunate enough to gain employment under Chantrey at once. The author of the brief biography mentions that while Weekes was waiting for Chantrey's reply to his application, a stonecutter in the employ of the successful sculptor "chaffed" the young man, asking, "if he was come to buy the whole place up," which was precisely what he afterwards did. The story seems to indicate that Chantrey's own rather purse-proud character had its effect on the manners of his subordinates. Chantrey specially named Weekes in his will as the man to whom he would wish his unfinished works to be entrusted for completion; and the legacy which he left him at the same time enabled him, with other means, to purchase the property; and thus he stepped into an artistic practice as into a regular business. In a practical point of view, his career was thus a peculiarly fortunate one, for we do not surmise that he had the personal power which enabled Chantrey almost to command success and reputation at his own will, although as an artist he had much more range than his teacher. Weekes's characteristics are not badly summed up by his biographer as presenting the rare combination of fixity of purpose with a "well-balanced yet poetic mind." The poetic quality was not of the highest order, but the "well-balanced" element enabled him to make more of his opportunities than some unbalanced men of more decidedly poetic genius have done with theirs. Chantrey's peculiar power of giving interest and individuality to a portrait without limiting himself entirely to mere realism he perhaps did not possess; in fact, after all that is said of Chantrey's limited range and essentially practical and even worldly character, his exceptional fitness for the particular line of sculpture in which he made such a success cannot for a moment be questioned; but Weekes was capable of imaginative work of high excellence, while Chantrey shunned even the few opportunities which were pressed upon him of attempting works of that class. Weekes's own description of his master in this respect is amusing. "The late Lord Egremont gave him a commission for a statue of Satan addressing the Sun, to be a companion to the group by Flaxman, of Michael and Satan, now at Petworth" (a touching instance of faith on Lord Egremont's part!). "Chantrey made an effort to please the old Earl, but it never went further than a half-size model of the figure and a full-size study of the head. Both are now destroyed. A stumpy Satan, with bow-legs, and a stomach showing outward signs of being with good fat capon lined, and a head as ugly or uglier, though in a different way, than the Sin whom the archfiend met at the gates of Hell, were but poor representations in art of Milton's fallen angel. George IV., when Regent, proposed to him that he should execute a Venus of the kind Canova's genius was so fond of, but nothing came of the order beyond a sepia sketch or two on paper." The only ideal work he carried through was the alto-relief of "Hector parting from Andromache," for the Duke of Bedford, which Weekes characterises as carefully executed, but entirely wanting in heroic character and pathos. Other characteristics of Chantrey show the canny and cautious nature of the man. He was once asked at the table of the Duke of Sussex whether he was an Episcopalian or a Presbyterian, and replied, "Your royal highness, I am a Derbyshire man."

Weekes, in his introductory lecture, speaks very modestly in regard to the possible value of his own lectures, and this tone is taken also in the brief editorial preface, which is almost apologetic. This is an error on the right side, but no apology at all is necessary. There may not be, Weekes did not profess that there was, anything new in them on the subject of sculpture, but as art-lectures they have some exceptional merits. They are characterised by a generally good literary form and style, and a tone of culture, with an entire absence of anything like rhetoric or rhapsodising; and there is a practical aim throughout them: the author says nothing that is not with a view to its effect on the modern sculptor's practice, and he enunciates no theory as to the art without giving definite and well-considered reasons for it. If the lectures were not of use to young sculptors, they certainly ought to be of use to a good many art-critics, as specimens of writing about art which is always marked by logic, consideration, and good sense.

Some few of the points touched upon in the lectures we may allude to briefly. Weekes is very decided on the influence of the moral element in the artist's life, a matter about which there is a little too much made. That every man ought to be good, artists and all, we are all probably agreed, but it may be doubted whether the artist is under any peculiar obligation to be so, more than other men. As in other things, so in art, great intellectual successes have been made by men who were morally low; and the example of Flaxman has two sides to it; for it might be said, with all reverence, of that lofty and beautiful genius, that the one thing he wanted was a little of the devil in him. Give good moral advice to art-students, by all means, but let it be given to them as men rather than as artists. In regard to criticism, Weekes, like most true artists, set a due value upon the opinions of those who were not artists; on this head we observe he pays what we believe a perfectly just tribute to Byron, as the kind of imaginative mind that could thoroughly appreciate the abstract beauty of sculpture, though he ridiculed the art in his sarcastic moods; his lines on the "Dying Gladiator" serve well, he says, to illustrate the province of sculpture, to be suggestive rather than merely imitative. The suggestive rather than merely imitative. The statue, he believed, does not represent a gladiator, as those trained prize-fighters would

* Lectures on Art, delivered at the Royal Academy, London. By Henry Weekes, R.A. With portrait, a short sketch of the author's life, and eight photographs from his works. London: Dickers & Son. 1880.

certainly have had their hair cropped close. The limitations of the art are well suggested in reference to such a subject as Ugolino; could we show the entire history of the man we might perhaps extract good from it altogether, "but in art we have to deal with a part only, and give the suffering by itself, and suffering is not the proper province of art to represent; there must always be a certain amount of pleasure resulting from it, or it fails in its purpose." "Recollect," he adds, "the rule in dramatic poetry, that crime should be left behind the scenes, in order that the moral may be brought more to the front; it is equally applicable to your art." Weekes was of course an upholder of the ideal and abstract school in sculpture, but without any leaning towards classicism, which he emphatically condemns. The reasons against the representations of violent action in sculpture are exceedingly well put, and include one which is not always recognised, namely, that in the case of single figures we are without any explanation or motive of the action, any object towards or against which it is directed. He observes how fond inferior portrait-painters are of strong action; "their generals wave their swords, their orators extend their arms," but we do not perceive what is exciting them. This is quite true up to a certain point, but it must not be proved too far. It may be replied than an action which is consistent with what is already known of the subject of the painting in his public capacity sufficiently explains itself,—as, for instance, the attitude of Sir James Paget lecturing, in Mr. Millais's picture; but of course violent action is always a vulgarity in a portrait. In sculpture there are other reasons for the limitation of action. At the same time what Weekes says is quite true, that more action may be allowed to a figure when it forms part of a large group, as in a pediment composition, as it then falls into the whole, and its action may be sufficiently explained and accounted for by its relation to the other figures.

We very much wish that the Royal Academy would attend to one suggestion of their former member, which has been made more than once also by ourselves, viz.: to mix the sculpture with the paintings in the annual exhibitions, instead of collecting all the sculpture in two cold and colourless rooms. We will quote Weekes's own words:—"The business of sculpture is to stop at intervals the play of colour in other objects,* to serve as a rest to the eye from the great glare of colour, whether produced by highly-tinted ornamentation, or from too continuous a line of rich pictorial art. I have no hesitation in saying that were the sculpture in our annual exhibitions judiciously mixed in the rooms with the paintings,—were it dotted along the walls at regular intervals, it would not only add to its effect, but the very paintings themselves would be benefited by it, as the contrast would give a resting-place for the eye, from the excitement caused by frequent changes of colour." We have heard the same opinion from other sculptors, and have not a doubt that such a change would lead to the sculpture being more appreciated and observed by general visitors, instead of the sculpture-room being regarded (as it mostly now is) only as a place to meet in, and that it would be beneficial to the pictures in giving colourless objects as points of departure for the eye, furnishing it with a ready means of estimating the real key and scale of colour in the pictures, about which the judgment is apt to get quite confused after seeing nothing but paintings massed together with no relief. The space which would be taken up on the walls of the picture galleries would, of course, be compensated for by the corresponding space cleared in the present sculpture galleries, the whole of the rooms becoming picture galleries, with sculpture intermixed.

The lecture on "Style" is worth attention, but we must refer the reader to the book for it, and for the distinction drawn between style and manner. A considerable portion of the lecture on "Beauty" is also noteworthy, as being marked by a much more clear and common-sense consideration of the subject than we generally find in art-criticism under that head. Weekes avoids such pitfalls as theories about "the beautiful," that will-o'-the-wisp of writers on art in former days and occasionally now; but he has some really suggestive remarks to make as to what beauty really means; and he tells his hearers, "if you wish to go the whole road, or, at any rate, as far back as possible to the great first cause least understood, you must take into your thoughts the question whether there is not a faculty placed within all nature which attracts towards itself the beautiful and repels the ugly or defective." This, he says, is Darwin's theory put into different words; and he recommends the young art-student the study of Darwin. "He will show you, or teach you to find by inference, beauty in almost all creation,—beauty, if not in every individual specimen of nature, as a part of a whole where beauty presides." It is in this spirit that art should use scientific teaching as the stepping-stone to wider generalisations and new views of nature.

Weekes was not sanguine as to the possibility of any wider interest being felt in sculpture than is evinced at present. It is an art, he says, which can never be popular; it can never descend low enough to be so. Unfortunately for the populace, we believe this is too true; but the fact ought to be the glory of sculptors in one sense, however it may unhappily prove inconvenient in the commercial sense. Chantrey was, perhaps, the one instance of a popular sculptor, and he was so because he never soared to anything which was beyond the comprehension of the popular mind.

* He means, of course, that this is the part sculpture plays in general decorative effect considered *en masse*, not that it is the special end of the art.

AN ANCIENT ROADWAY.

ASSYRIAN AND EGYPTIAN MONUMENTS.

LONG before conquering Rome had covered the ancient world with her network of military roads, Commerce and War, the sponsors of civilisation, had thrown out their lines of communication which bound together the nuclei of culture. The name of one of the earliest cities of primitive times which the Bible makes known to us is Kharran, "the caravanserai" or "road city." * Hither Abraham had journeyed, following, no doubt, the "via publica" of those days, the commercial and military road which bound together the two seats of civilisation, the one on the banks of the Euphrates, the other on the banks of the many-mouthed Nile. Few roads can rival in antiquity or in historic associations that ancient pathway of culture which connected the capitals of Babylonia and Egypt, and along which was an ever-flowing stream of intercourse. Centuries ago in a far remote past the primitive Semite trader had wandered forth on his long and dreary journey to visit the cities of the "land of the setting sun." Months of travelling of danger from man and beast were before him; but his hand was against every man if every man's hand was against him; and by the doctrine of the survival of the strongest and fittest that pioneer had forced his way westward, westward!

Leaving Babylon we can follow him to the cities of the colony of Assyria-Assur, where the Tigris was crossed.† To Kalah and Nineveh, then but young and dependent on the mother land, so onward he passes until Kharran, the principal resting-place in the upper Mesopotamia, is reached. Here he was among the tribes of the Nahrai, or people of the rivers,—a people of whose civilisation we know as yet but little, but who were always powerful enemies of the kings of Assur. Kharran, Urfa, and the ruins in the Jebel Abdul Aziz, and on the banks of the Khabur, show that this people were no mere confederation of wandering tribes, but were city builders; and recent research in their lands show them to have been the inventors, though perhaps at a late period, of a mode of writing distinct from that of surrounding nations. Kharran, imbued with the influence thus borne to it by this artery of culture, had adopted the Sabean and astrological creed of Babylon, and retained it for centuries after both Nineveh and Babylon had passed away. Indeed, even up to the present time, strange traditions and superstitions, relics of the ancient creed of the people, linger in Kharran. From this ancient city the route passed westward until the Euphrates was reached in the neighbourhood of the Hittite city of Carchemish, the emporium of commerce on the river.

Henry Maundrell, one of the earliest English travellers in Syria, who, in 1699 A.D., voyaged from Aleppo to the Euphrates, states that when visiting Jerablis, the site of Carchemish, the natives told him that at or near this point there were traces of an ancient bridge over the river. Of the remains of this ancient means of transit, the traveller states he saw no traces, but the author of this notice, who has recently visited the site, was able to identify the remains which probably gave rise to this idea. About four miles south of Jerablis, on either bank of the river, are to be seen two of the mounds so common in those lands, which evidently mark the sites of ancient ruins. From their position at a point where the river in ordinary seasons would be fordable, it is evident that these mounds mark the site of the forts or towers which guarded the ford over the river where the caravan road crossed.

At Carchemish this roadway was formed by at least two other caravan routes, one of which followed the west bank of the Euphrates passing to Babylon; the other, the northern road, which brought down the trade from the districts of the Western Armenia. Of these two roadways, it is not our intention to deal in the present notice, they being better considered in relation to the great Hittite capital.

From Carchemish the Egypto-Assyrian route passed across the plain to the north of Aleppo, by the cities of Arpad, the site of which is now marked by the mounds of Tel-Erfad and Khazaz, the modern Azaz. From this point the roadway passed by a narrow ravine through the limestone "Jebel-Junneh" into the plain of El-Amk. Hence it passed south through all the cities of the people of Hamath until at last it emerged by the open pass which divides the northern Lebanon range from the Jebel Ansaria, and emerged on the sea-coast a little to the north of the site of Tripolis. This pass is one of the gates of Northern Syria, and may be identified "with the entry into Hamah." By Arvad and the Phœnician colonies, on the coast, it passed on to the cities of Tyre and Sidon, the homes of the merchant princes of Phœnicia.

It has been necessary thus far to trace the route of this roadway in order the better to understand the historical importance of one of the stations on the route, namely, the rock pass at the mouth of the Nahr-el-Kelb, a pass which was the gateway of Phœnicia. Few spots in the whole of Syria can rival this rocky pass in historical records or associations, or show so interesting a series of monuments of those whose names are famous on the roll of history.

This historic pass is situated somewhat less than seven miles north of Bierut, at a point where the short but rapid Nahr-el-Kelb, the "Dog River," enters the sea.

The promontory is composed of large honeycombed masses of limestone rock, which are torn and broken into every shape and form by the rude hands of centuries. The grey rocks which wall this roadway, being stained in many places by the iron oxide, especially in the places where clefts in the sides have become the channels for small mountain-rills, present a variety of strange tints. Perfectly barren and broken into immense boulders piled one on top of another, like some huge cairn, and stained with the blood-red of the oxide, one could not help associating the dull, silent statues which from the upper ledge of rock looked down on all with a stony calmness, with some mighty conflict which in a bygone age had raged in this rugged spot.

It was, no doubt, owing to this cairn-like appearance which many of the rocks assumed that Henry Maundrell, in his description of the sculptures in 1697 A.D., suggested them to be possibly the representations of some persons buried there.

Shortly after entering the pass from the south or Bierut end one perceives the statues or sculptured tablets which have rendered the pass of so much interest. They are on the right of the present roadway and upon a ledge or terrace of the rock which crowns the upper portion of the promontory. The examination of the records has shown that they are arranged in historical sequence, at least as regards those erected by the Assyrian kings; and we may, therefore, consider them in the historical order.

The road by which the pass is traversed is of Roman construction, and passes along a ledge cut out of the face of the cliff and over the sea, its highest point being about 100 ft. above the water. This road is now used for the caravans passing by the sea-shore route to Tripolis, Jebeil, and other coast towns. On the upper platform or ledge, which we shall see are the remains of the more ancient roadway, almost directly opposite the highest point of the pass, is the first of the sculptures, a tablet of Assyrian workmanship, and the best preserved

* Genesis xi. 31.

† The ancient name of Assur was "the place of his crossing," or "the city of the ford."

of the series. On this same ledge there are also two pairs of tablets, Egyptian and Assyrian, this series of five tablets forming the southern group.

Following the roadway, we come to the nose or extreme point of the rocky promontory, and here the road takes an abrupt turn east, and passes along the bank of the Nahr-el-Kelb. The descent here is steep and slippery until the ford is reached. Twenty yards down this roadway, and facing the traveller, is a finely-sculptured Assyrian tablet, which is placed to the right of the roadway, on the rock which forms the corner-stone between the ancient Assyrian road and the Roman road. From this point to the ford the most ancient Assyrian road and the Roman road coincide. Between twenty and thirty yards further along this roadway a second pair of Assyrian tablets are to be found cut on the rock, and directly opposite the ford there is an Egyptian tablet. The Roman road is continued for about 600 yards further up the pass, and crosses the river by a bridge.

An examination of these records shows that as regards the Assyrian tablets they are arranged in an historical order commencing with the pair of tablets near the ford (Nos. 2, 3), and terminating with that which crowns the highest point of the pass (No. 9).

The following table will show this order, together with the epochs to which the sculptures may be assigned :—

No.	Nation.	Shape.	Date and Remarks.
1	Egyptian.	Square.[1]	Rameses II. Dedicated to Phtha.[2]
2	Assyrian.	Square.	Assur-ris-ilim (B.C. 1140).[3]
3	Assyrian.	Do.	Tiglath-pilieser I. (B.C. 1120).
4	Assyrian.	Round-head.	Assurnazirpal (B.C. 885).
5	Assyrian.	Do.	Shalmanesar III. (B.C. 860).
6	Egyptian.	Square.	Rameses II. Dedicated to Ra.[2]
7	Assyrian.	Round head.	Sennacherib (B.C. 702).
8	Egyptian.	Square.	Rameses II. Dedicated to Ammon.[2]
9	Assyrian.	Round-head.	Esarhaddon (B.C. 681).[4]

[1] The surface of this tablet has been planed and a French inscription cut upon it.
[2] These dedications are assigned by Dr. Lepsius, of Berlin, who examined the tablets in 1845 ("Briefe aus Egypten," 402).
[3] Much worn.
[4] Portion of inscription proves erection in B.C. 672-1.

The first tablet is an Egyptian work, but, unfortunately, it is quite destroyed, having been taken by the French troops forming the army of occupation in 1860-61, during the time of the Druze massacres, to receive an inscription recording their presence. The preparation of the surface necessary for the reception of the new inscription has entirely removed all traces of the ancient inscription. Dr. Lepsius, the German Egyptologist, however, made an examination of the record in 1845, prior to the mutilation, and was then able to trace sufficient inscription to identify it as the work of Rameses II., the great Sesostris, and to attribute it as an *ex voto* to the all-wise Phtha. The monuments have also been examined by the late Joseph Bonomi,* and he also attributes them to Rameses. "The most ancient, but unfortunately the most corroded, are three Egyptian tablets: on them may be traced the name of Rameses,† to which period any connoisseur of Egyptian art would have attributed them, if even the evidence of name had been wanting, from the beautiful proportion of the tablet and its cavetto moulding." These Egyptian tablets, Nos. 1, 6, 8, are all similar in shape, being 7 ft. 6 in. high and 3 ft. 8 in. in width at the top, and somewhat more at the bottom. They are surmounted by the overhanging cornice with a cavetto moulding, and a feather decoration on the cornice. Upon the lintel of the framework is the winged circle, or solar disc, and the nomens and prenomens of the monarch are inscribed on the jambs. Egyptian records show that these tablets were placed here by the great conqueror, Rameses II., as *ex votos* for his victories over the Kheta and other Syrian allies. The two earlier ones, Nos. 1, 6, which are dedicated to Pthah, and the solar deity, Ra, were erected for victories over the Rutennu;‡ but the last one, dedicated to the deity Ammon, is to commemorate the great personal triumph of Rameses over the "vile Kheta" and their allies. The tribes of the Kheta or Hittites, the people of Kair Kamasha (Carchemish), of Charibu or Chalibu (Khelbon), or Aleppo, and the southern Hittites, afterwards the Hamathites, the people of Kadesh, had all gathered against the great conqueror. By a great battle before Kadesh, on the Orontes, the allies were defeated and made peace. In this battle the royal commander performed most valiant and superhuman deeds, and the account of his mighty acts are set forth by the poet laureate of that period, one Pentaur or Pindar the royal scribe, in a long heroic poem.*

We pass now to consider the Assyrian records in this series. First we have a pair of square-shaped tablets, Nos. 2 and 3, placed side by side about thirty yards above the ford. They represent two royal personages clad in the robes of royalty. The workmanship is evidently that of an early period of Assyrian art, and much earlier than the other sculptures. The reliefs of figures are low and squat in shape, and lack that stately proportion and dignity which we find in the works of either the middle or later empire. There is none of that attention to minute details of features or dress which mark the best Assyrian art. It is therefore clear that these works were of a style of art prior to the ninth century before the Christian era. If we examine them closely we find a resemblance in tone to works of which we know the date. There is in the British Museum (Assyrian side room) a statue of an early Babylonian king, Merodach-Nadin-Akhi, who reigned in the twelfth century before the Christian era. The first pair of Assyrian sculptures of which we are speaking exhibit a marked resemblance to this and other early works,† and we may therefore assign these records to the period of the Early Assyrian Empire; that is, the twelfth century before the Christian era. Of the monarchs whose reigns are included in the period of the Early Assyrian Empire, there are two who made expeditions into Syria and penetrated as far as the "sea of the setting sun," namely Assur-Ris-Ilim, B.C. 1140, and his son, Tiglath-Pilieser I., B.C. 1120, a monarch whose reign formed the zenith period of the Early Assyrian Empire.

Of the former of these monarchs we have no lengthy inscription, and his only claim to be considered the monarch who erected one of these statues is his adopting in his inscriptions the title, "the conqueror of the land, as far as the sea of the setting sun." His son, the warlike Prince Tiglath Pilieser I., has, however, left us a record of his campaigns in the regions of Western Syria, and of his visit to the cedar-woods of Lebanon.

In the latter part of his reign, this monarch, having subdued all the tribes of the Nairi or Upper Euphrates valley, turned his arms against the warlike tribes on the west bank of that river. He crossed the Euphrates, and took the city of Pitru or Pethor, the birth-place of Balaam, which was situated at the mouth of the Sadjur; he then advanced against Carchemish, some twenty miles north, and after reducing that city he marched south-west to visit the Lebanon, to obtain cedar for the decoration of his palaces and temples. He advanced as far south as Arvad or Ardus, where he entered into a ship and slew with his own hand a porpoise.‡ It is probable that, during this or a subsequent expedition, he visited the cities of Phœnicia, and then erected his statue on this gateway of Phœnicia. Had he but been in the neighbourhood as he was when he visited the regions of the cedar-groves, and possibly Afka or Apheca, the sacred glen of Astarte, he must have heard of the records of the Egyptian conqueror which were upon the rocks over against the great sea, and his arrogance and pride would prompt him to go and erect similar records of his greatness.

We now move some thirty yards up the pass to the point where the ancient roadway joins the present or Roman road, and on the corner rock here we find another finely-cut Assyrian memorial tablet. It is cut on the surface of the rock facing the sea, and is about 7 ft. above the roadway. The preparation of the rock, and the work of the tablet itself, at once show it to be the work of a period more advanced in art than that of the tablets below it. It is 6 ft. in height and 2½ ft. in breadth, and the depth of the niche is about 5 in. These Assyrian tablets are cut somewhat deeper at the top, in order that the water which drips down the face of the rock may be carried clear of the upper portion of the sculpture.

The resemblance which this memorial record presents to well-known Assyrian monuments enables us very clearly to ascertain the period when it was executed. It may be compared with such monuments as the stelæ from the temple of the war-god at Kalakh, or Nimrud, which may be seen in the British Museum. These stelæ were erected by kings of the middle Assyrian empire. In the Assyrian vestibule of the British Museum we have a finely-preserved monument of this class, which was erected in the temple of the war-god at Kalakh (Nimrud), and which in sculpture is an exact counterpart of the bas-relief now under consideration. This monument was erected by Assur-nazir-pal B.C. 885, one of the great monarchs of the middle Assyrian empire. In the side room we have also a similar class of monument erected by Samsi-Rimmon, the grandson of this monarch. The memorial-tablets from Kurkh, near Diarbeker, on the Tigris, now in the British Museum, are also of the same class, as well as the rock-sculptures at the sources of the Tigris, the headwaters of the Debeneh-Su.

This tablet No. 4 evidently pairs No. 5, which is situated on the higher ledge of rock about 150 yards distant, and we may therefore assign them to the same period. In the case of these two interesting monuments the historical records which have been rescued from the graves of Nineveh and other Assyrian towns afford us much interesting information, and enable us to fix the period of their erection. The lower of the two we may certainly assign to the great conqueror Assurnazirpal (B.C. 885), who subjugated the whole of Western Asia to the Assyrian rule.

From the great historical inscription which covers the pavement slabs of the rich war-temple at Kalakh we learn the details of the campaign which this statue commemorates. "On the 8th day of the month Iyar [April]" probably in the year B.C. 870, the Assyrian monarch started from the royal city of Kalakh on an expedition, the ostensible object of which was the subjugation of the Hittite power and the capture of Carchemish. After following the ancient military road, the route of which we have traced, he came to Carchemish, the king of which submitted. His intention now was to proceed to the Lebanon to cut cedar for his extensive building works at Nineveh, and to extort some tribute from the rich Phœnicians.

"In these days I occupied the sides of the mountains of Lebanon (Labnana).
To the great sea of the west I approached.
My arms upon the great sea flashed.
To the gods I sacrificed, and tribute of the princes of the sea shore of the lands of Tyre, Sidon, Gebal [Jebeil], Makullat, Mázai, and Kaizai of the Phœnicians of Arvad, in the midst of the sea I received."

This tribute, we are told, consisted of all the wealth of Phœnicia. The king then speaks of the cutting of cedars in Lebanon; and it was evidently during his campaign that his statue was erected over against the great sea. We may, therefore, safely assign this tablet to the great king Assurnazirpal, whose statue from Nimrud it so closely resembles. Before proceeding to describe this pair of statues, we will notice the historical data with regard to the erection of the second of the pair,—namely, that which is on the platform of rock above the present roadway.

This statue we may certainly attribute to Shalmanesar III., the son of Assurnazirpal. This monarch came to the throne of Assyria in B.C. 860, and at once commenced to carry on the warlike policy of his father. In his first year, B.C. 859, he marched forth on a tribute-gathering expedition, and, after visiting the cities on the banks of the Khabour, Carchemish, and of Hittite cities, he came to the cities of the sea coast.

"[To] The upper cities of the west and the sea of the setting sun. . . .
The tribute of the kings of the sea coast I received on the shores of the broad sea. . . . .
I descended. An image of my lordship. The record of my name for ages I made. Over against the sea I placed it."

Such is the record of the erection of this royal statue, which was to be a record of the king's name. Little did he think that for over twenty-seven centuries it would stand as a record of the deeds which he had done.

The king is clad in the long sleeveless robe, or "kamis," richly embroidered and fringed, and on his head is the royal tiara, or cap. These caps may to this day be seen worn by the Kurdish chieftains, but now made of a species of felt; whereas at that period the material was

* Transactions R. Soc. Lit., art. iv., by Joseph Bonomi, vol. iii., p. 105, 1839.
† Rameses II.
‡ Or tribes dwelling in the lands forming the basin of the Litany river.

* Third Sattier Papyrus, in the British Museum.
† *Bas-relief* of a king in grey granite in the same room, and the rock sculptures on the Debeneh-Su, near Diarbeker.
‡ The animal is called the *nakkuri*, or "blowing animal," and is probably the porpoise.

robably of metal-work. The right hand is extended in adoration towards sacred symbols which occupy the corner of the background.

These Assyrian memorial tablets differ materially from those of other nations, yet they have contributed much to the adoption of this kind of memorial by the Hittites, Lydians, and other nations.

That wonderful brazen war panorama which has been restored to us in the bronze gates from Ballawat has brought before us an interesting tableau connected with these memorial stelæ. We have there the representation of the erection of one of these memorial tablets upon the rocks over against "the great sea of the rising sun," the sea of the Nairi, that is Lake Van. In that scene we have before us the ceremonial which took place, and we see how important was the event considered to be, how royal pomp and religious ceremony were all brought to bear upon the work and to contribute to the glory and honour of the great king. Priests with portable altars are standing before the statue and burning incense, and victims are being brought forward to be slain. The soldiers or attendants are seen casting portions of a victim already offered into the sea, to propitiate the gods of the deep. On the occasion of the erection of one of these royal *ex-votos* not only were offerings made to the newly-erected sculpture, but also to those which had preceded it, so as to pacify and honour the manes of the ancestors of the king.

This last tablet, No. 5, the monument of Shalmanesar III., has been erected alongside of an Egyptian one. The late Mr. Bonomi suggested that the Assyrians had availed themselves of the surface of the rock which had been prepared by the Egyptians. This may be possible; but there also seemed to be a special motive in the juxtaposition. We find Nos. 5, 6, placed side by side, and Nos. 8, 9. No. 5 was, as we have seen, the work of Shalmanesar III., and No. 9 that of Esarhaddon, both of which monarchs in their wars had come in contact with the hostility of Egypt. The former had only, at the time at which his statue was erected, been opposed to the intrigues of Egypt among the Hittites, but the latter had come into actual and victorious conflict with the serpent of Old Nile, and had erected his tablet here to commemorate victory. It is, therefore, more probable that the juxtaposition is the result of this feeling of arrogance towards Egypt.

The two Egyptian tablets in this upper road have been at some time protected by bronze doorways in a similar manner to the tryptiches in churches, and the holes in which the sockets of the hinges were inserted are yet to be seen.

The tablet No. 7, which is placed a few yards further up the cliff, south of the Egypto-Assyrian group (Nos. 5 and 6), has by nearly all who have examined it, been assigned to Sennacherib (B.C. 705). The examination of this sculpture shows that we have now a work of a more advanced art period than that which we meet with in either of the other tablets. The framework which encloses the sculpture is larger and better proportioned, the sizes being 7 ft. 3 in. high and 3 ft. 8 in. wide. The workmanship shows it to belong to the best period of Assyrian art, and although there is no record of its erection by Sennacherib to be found in the inscriptions, its resemblance to the Bavian and other records of that king show it to be a work of his reign. Sennacherib visited Syria and Palestine at least three times in his reign. In B.C. 703-2, he defeated the Palestine and Egyptian armies at Eltekeh, an account of which expedition is found in the Taylor cylinder. There were probably at least two other expeditions against Palestine later in his reign, as shown by fragmentary records in the British Museum.

In this text of the Taylor cylinder there is no mention made of the erection of a royal statue on the shores of the great sea, but this does not preclude the possibility of such an event. In the inscriptions of Sennacherib and his successors a more florid style of literature is in vogue than in the time of Shalmanesar and the kings of the Middle Empire. The former style was a diurnal one; each halt, each river crossed, and almost every event of the march, with most accurate statistics of the tribute, &c., are given, but in the texts of the time of Sennacherib a more grandiloquent and general style is adopted, and these minute details are omitted. The increase of bureaucracy had formed a style which left these details to the terra-cotta despatches and blue books in the War or Record offices of Nineveh, while a gilded and verbose abstract was given on the record cylinders of the king.

The last group of these interesting monuments of antiquity consists of a pair of tablets, one Egyptian and the other Assyrian. The first of these, No. 8, is dedicated to the Theban Ammon, and was erected in honour of that deity by Rameses II., after his great victory over the Kheta and their allies; the second is an Assyrian tablet, similar in style to the three last described. This monument is the one of which Henry Maundrell, who visited the pass in 1697 A.D., states "there is one of the figures that had its lineaments and inscriptions entire. A cast of this sculpture was obtained by Mr. Joseph Bonomi in 1834, and was presented to the British Museum by the Duke of Northumberland." *

In the possession of this copy the British Museum authorities are fortunate, for they now have in it a much better copy than the original monument. Forty-five years of exposure to the wear of the sea and air have obliterated much that was visible, and one failed to recognise portions of the inscription which are known to be extant in the cast. In the upper left-hand corner of the tablets are a group of sacred emblems, the sun, crescent moon, the seven stars, or pleiades, and other religious emblems. The royal features, hair, beard, and head-dress, the portion of the robes not obliterated by exposure, all show the greatest attention to detail, and the sculpture when perfect must have been a fine example of Assyrian workmanship. Some of the remaining portions exhibit an amount of fine carving rarely expended on rock sculptures, which are usually bold in outline and scant in detail. Strange to say, in direct opposition to all this extra attention to workmanship on the part of the Assyrian artist, the selection of the portion of rock exhibits a most decided mal-judgment. A portion of rock has been chosen which is covered with a thin superficial layer of fine stone. The cutting of the *bas-relief* and inscription has worn this extremely thin; the result is that in exposed portions the layer has disappeared, taking with it large portions of sculpture and text.

The sculpture represents the king standing arrayed in royal robes, and wearing the royal tiara, or head-dress, richly decorated with floriated rosettes. The right hand is elevated towards the sacred emblems, and the king appears to hold in his hand a couple of feathers. We now turn to the fragmentary inscription which covers this interesting record to see what royal and kingly personage is here represented. The occurrence of such names as Assur-akhi-iddira, Esarhaddon, Sin-akhi-irba, Saincherib, together with the royal titles of "King of Babylon," "King of the Lands of Egypt and Ethiopia," and the mention of an expedition against Tarqu or Tirhakah, ending in the sack of "Memphis, his royal city," furnish sufficient detail to enable us to form an accurate conception of the date of the tablet.

By these titles and data we may see that the statue represents Esarhaddon, the third and faithful son of Sennacherib, who came to the throne of his father in B.C. 681, and reigned until B.C. 668, when his son, Assurbanipal succeeded him.

Ever since the rise of the Ethiopian or twenty-sixth dynasty in Egypt, there had been a rapidly increasing opposition between the two great powers of the East. Sargon had come in contact with the king (Siltan) of Egypt; Sennacherib had suppressed the revolt in Palestine due to the intrigues of Tirhakah; and now again, in the reign of Esarhaddon, the messengers of Egypt were raising revolt in the lands on the borders of the Western Sea. From a small inscription, now in the British Museum, we learn that in his tenth year (B.C. 672-1)† Esarhaddon had news of a revolt in Tyre. In the early part of his reign the intrigues of Egypt at the court of Sidon had led to its destruction by the Assyrians, and now Tyre, who had benefited by the fall of her sister city, was yielding to the flattering solicitations of Egypt.‡

By the defection of Tyre the Egyptian king had hoped to cause a block on the Assyrio-Egyptian road, and thus give time for a more effective resistance in Egypt. Esarhaddon, however, lost no time, but marched direct across the Syrian desert, probably by the Damascus caravan route, and entering Palestine near the city of Aphek (*Apku*), on the borders of Samaria, he despatched one contingent of his army to hold in check Tyre, with the other he marched direct into the heart of Egypt. This well-planned campaign ended in the defeat and flight of Tirhakah and the capture of Memphis and many other Egyptian cities. Egypt was divided into twenty-two satrapies under governors dependent on the court of Assyria, and the Assyrian king returned with an immense booty. On the return march, which followed the Assyrio-Egyptian road, tribute was gathered from the principal Palestine and Phœnician cities, and also from the kings of Cyprus.

It is an interesting fact that the inscription at *Nahr-el-kelb* commences with an enumeration of the titles of Hea or Oannes, the god of the sea, which seems to indicate that this is an *ex voto* for a successful sea voyage. It is possible that the Assyrian king had prepared to bring the rich spoils of the Egyptian campaigns and the tribute of Tyre and other cities in ships taken from Egypt rather than by the difficult overland route.

From these facts we may conclude that this statue was erected in B.C. 670, to commemorate the successful termination of the war in Syria and Egypt. With this statue of the conqueror of Memphis ends this historic sculpture-gallery.

By a strange chance coincidence this last record is placed by the side of an Egyptian tablet, recording the victories of one of the greatest of the Pharaohs. With Egypt in its glory it begins; with fallen and crushed Egypt and captured Memphis it ends. How plainly now do we see in the small act of thus placing his statue close alongside the Egyptian's record, the proud assertion of the victor's power.

> "O Heaven, that one might read the book of fate,
> And see the revolution of the times!"

Rome has left here a record in this pass to tell of her dominion, as near the bridge may be seen a rock-cut tablet bearing an inscription of Marcus Antoninus (A.D. 179), who made the lower or Roman road.

Last in the series of records of great men and mighty deeds we have an Arabic inscription of Sultan Selim I. (A.D. 1517), who repaired the bridge which crosses the stream.

Thus in this rocky pass, under the slopes of cedar-famed Lebanon, there are preserved the records of the conquerors of the East for more than thirty centuries,* and by their aid we can form some idea of the grand armies which have in the past trodden this most ancient of roadways.

* It is in the Koyunjik Gallery.

† Transl. by W. St. C. Boscawen, Trans. Soc. Bib. Arch., vol. iv., pp. 84-97.

‡ On the fall of Sidon, a convention granted by the Assyrian king had ceded Dor Accho (Acre) and Gebel (Jebeil) to Baal, King of Tyre; the pass of the Nahr-el-Kelb would therefore be at that time in the Phœnician hands.

PURE AIR AND NOXIOUS VAPOURS.

WHEN James Watt had improved his steam-engine, its general adoption as a prime mover led to a great change in the industrial habits of the English people, but for many years their physical surroundings remained practically the same. Even after the cotton trade had taken firm root in such industrial centres as Glasgow and Manchester, there was no very striking contrast between life in the country and life in a town. The factory chimney smoked, and no doubt smoked freely, but its noxious vapours did not mingle in those days with the noisome clouds that obscure the sunlight and vitiate the atmosphere of whole provinces as they do to-day.

Considering the important place which was given to the question of sanitary reform by the Conservative leaders, and especially by Lord Beaconsfield, at the general election of 1874, it is not possible to contrast the professions and the performances of the late Government in these matters without coming to the conclusion that they neglected their opportunities. As regards atmospheric pollution, the work of the late Administration, with the exception of an insignificant modification of the Alkali Acts, was confined to the appointment of a Royal Commission, and their report,† together with that of the Chief Inspector, Dr. Angus Smith, is the last authoritative information we possess on the subject.

To persons who have never witnessed the scenes of desolation to which these reports principally refer, it is not easy to convey an idea of the destruction which has been done. In the Swansea Valley, which is an old seat of the copper trade, the appearance of the hills is ex-

* This includes the French occupation in 1860. The records extend from 1350 B.C. to 1860 A.D.

† Report of the Royal Commission on Noxious Vapours, 1878.

traordinary. To a traveller who has exhausted every landscape of the globe this place would be worth a visit, if only to witness a prospect the like of which he had never seen before. The sides of the Valley appear to have been recently subjected to a great volcanic upheaval which has burned up all traces of vegetation, and left their declivities seamed and scarred by its fury. Here and there they are torn up by excavations, or covered with ungainly heaps of rubbish from the smelting works. In an ordinary atmosphere there would be something remarkable in the appearance of these Swansea hills, but, when mist or rain has mingled with the noxious clouds of stifling smoke that envelope the neighbourhood in busy times, the traveller is introduced to a better representation of Hades than he is ever likely to discover in the regions of imaginative literature. Even miles away, among the secluded valleys of Glamorganshire, when spring has enlivened the landscape with the freshness of its early foliage, the copses are seen to be scorched as with the fiery finger of autumn. Along the fringes of the woods, exposed to the winds that blow from the direction of the copper works, the leaves are parched and dead before the month of June. In the neighbourhood of St. Helen's, Widnes, and Newcastle, similar scenes of desolation have been produced by the atmospheric pollution caused by the local industries.

The evil effects of such an atmosphere on the physique of the population who live in it are simply incalculable. It is idle to say that these effects are not apparent. The migratory habits of the wealthier classes, whose occupations oblige them to live in large industrial centres, have increased to such an extent that a residence in some salubrious locality for a portion of the year is looked upon as a necessity.* The cost of this annual exodus is enormous. In many families the expense is so great, in proportion to the total income of the bread-winner, that even a trifling expenditure upon amusement during the rest of the year becomes impossible. It is not pretended that an annual change of air is a cure for the evils complained of; at best, it is only remedial, and is adopted with the view of making the average of health higher than it otherwise could be. The Swansea district already referred to is one in which manufacturers have combined the greatest amount of offensiveness and effrontery, but in all our large manufacturing towns we find the evils of a polluted atmosphere in an aggravated form. A residence in most of them entails a physical ordeal, and it is an almost universal complaint among men who have to work with their brains in large industrial centres that, for them, existence is below par. Dyspepsia has become an all but universal ailment, and the strongest men are soon affected by the prevailing tendencies to ill-health. A generous diet, regulated by intelligence, and the annual change of air, no doubt do a great deal to mitigate the bad effects of a vitiated atmosphere among the wealthier part of the community, but what can be said of the wage classes? No one supposes that they are of such a different physical constitution that they remain unaffected by the evils that work such havoc among the wealthy and the well-to-do. And so it happens very naturally that what the physician prescribes for the merchant and the lawyer who are below par, in the form of tonics and a carefully-selected diet, the workman prescribes for himself. Is it to be expected that he will study the rival merits of a farinaceous and nitrogenous diet, or can it be wondered at if, when he finds himself below par, he should solve the problem by administering to himself a stimulating draught of gin?

But while the evil effects of a polluted atmosphere upon the population who breathe it cannot be denied, the question has an economic aspect which seems hitherto to have escaped public attention. Even among the most squalid inhabitants of a large town a certain amount of cleanliness is essential. No community can exist without some labour being expended upon the daily necessities of life. The difference between the amount of work necessary to keep a cottage in the country, and a dwelling of the same dimensions in a manufacturing town, in an equal condition of cleanliness, is immense. When it is considered that, among the working-classes, the duties of the household, in both cases, generally devolve upon one pair of hands already over-taxed by the cares of maternity, this additional strain thrown upon the workman's wife, who lives in the midst of a large industrial community, assumes the most serious proportions. Deducting the stamina derived from the fresh air breathed by the labourer's wife in the country from the account of her less fortunate sister in the town, can it be wondered at if she sometimes gives up the unequal struggle, and contents herself, as best she can, with the continual contact of squalor? Most people will be ready to admit that the humble households of our large manufacturing towns are at a great disadvantage in the matter of cleanliness, but it is not so easy to recognise, at a first glance, the economic aspects of the evil of polluted atmosphere as affecting the entire community. To keep the dwellings of the inhabitants of a large industrial centre in the most ordinary state of cleanliness, must frequently absorb as much labour as is required for carrying on any one of its most important industries. The annual cost of this daily battle with dirt and the waste of human energy which it entails, amounts, in many cases, to a social calamity. Even when this labour is incessantly maintained, it results in little better than a universal griminess, which is always impelling those persons who can afford it to betake themselves to the suburbs or the country.

The inhabitants of London, who live under the jurisdiction of the Metropolitan Board of Works, are fortunate in possessing a supervision of nuisances vested in a corporation, with exceptional powers of enforcing their authority. But for this the leafy shades of Rotten-row and Kensington-gardens would probably have long since been nothing but a pleasing memory of the oldest inhabitant. The effect of the public being protected within the jurisdiction of the Board of Works has obliged the polluters of the atmosphere to betake themselves elsewhere. They have gathered in clusters outside the circle of protection. Mr. Spurling, a resident at Blackheath, stated before the Commissioners, that "he is awakened in the night with the house full of horrible smells, and nearly choked." Dr. Finch said, "the stench is perfectly unbearable." A landed proprietor in the neighbourhood stated that "the nuisance from the Cement Works, and other abominations that have taken shelter in the neighbourhood, causes irritation of the breathing organs, nausea of the stomach, and a feeling of sickness . . . . In fact, I have, in many instances, last summer, vomited and felt very sick; we are obliged to shut all the doors and windows." Not contented with their attacks upon the comfort and health of the population through the medium of the lungs, the doings of certain manufacturers has gone so far as to obscure the very daylight to a considerable distance from the scenes of their operations. A witness, well known as a yachtsman on the Thames, said that the smoke which comes from certain cement-works is sometimes "so dense that he cannot see the bowsprit end of his own vessel." It appears from his evidence that this smoke "is very dangerous indeed," and his testimony is supported by a memorial addressed to the Thames Conservancy Board by upwards of 130 Trinity pilots, and upwards of fifty steamship masters trading to the port of London. The Commissioners see nothing in all this to call for a stronger expression of opinion than that "the matter is certainly one that appears to call for attention."

From what has already been said the reader will be able to gather that the question of atmospheric pollution divides itself naturally into two sections, and that the Legislature must deal with it in this way, if any great practical reforms are to be effected. The first division has been referred to in the desolations of the Swansea valley, in which it is necessary that the offending manufacturers should be brought to task; the second is that in which the pollution of the atmosphere arises from the escape of ordinary coal-smoke, to which all the inhabitants of our towns, and especially the steam-users, are contributories. The Legislature has looked at the matter in this light, in so far as it has done something in the Alkali Acts to control the offending manufacturers, but has done almost nothing whatever to remedy the still greater, because more wide-spread, evils that arise from the nuisance of smoke.* There are no doubt many practical difficulties which stand in the way of the sanitary reformer; but this makes it all the more necessary that the principle by which the Government is actuated should be a thoroughly sound one. If any one principle is entitled more than another to the position of an axiom, it is surely the right which the people have to their birthright of pure air. When a well-known member of Parliament comes before the Commissioners and says on the subject of inspection, "No one has a right to come into our works. I, for one, as a free-born Englishman, object to that on principle to the greatest degree. . . . . I want no one to come into our works unless I choose to allow him," surely the answer to such a statement on the part of all free-born Englishmen who do not happen to be copper-smelters is that they have no desire to go into this gentleman's works so long as he does not come into their atmosphere. In another part of his evidence the same witness appeals to the Commissioners to exclude the Swansea valley from the operations of the Alkali Acts, on the ground that the escape of noxious gases has been going on there for more than twenty years. Surely this is very much the argument which might be used by a man who had committed murder for an unusual length of time with impunity, urging it as a reason why he should escape the penalty of being hanged. And yet, although the original charter of the population to the right of pure air ought to weigh more heavily than any other consideration, it is persistently ignored by the Commissioners, and they confine their attention almost entirely to the effects of noxious vapours upon the value of real property. Hedgerows and trees command their most earnest consideration, sheep and oxen come next, and last to their minds, apparently least, come men. It does not require much scientific acquirement, nor any great intellectual attainment, to perceive that if the right of the people in the matter of pure air were properly attended to, the hedge-rows and turnip-fields would be very well able to take care of themselves.

To the hardship inflicted upon poor persons who are unable to protect themselves in the law-courts, the Commissioners devote one short paragraph, which is as follows:—"Persons whose houses are rendered almost uninhabitable by the stench of sulphuretted hydrogen from Widnes or St. Helen's waste-heaps appear to be practically without any remedy whatever." Although this obvious injustice was brought before their notice during the elaborate inquiry which they bestowed upon the best manner of altering the law so as to make it available for the recovery of damages for injury inflicted upon private property, they never even suggested a method by which sufferers from a nuisance, as contrasted with actual injury, may be protected. They discover in the Public Health Act of 1875 "an enactment (section 255) which facilitates proceedings against persons who jointly contribute to a nuisance under the Act." The sentence previously quoted, if it conveys a true notion of the conditions under which the unfortunate inhabitants of Widnes and St. Helen's pass their lives, is a standing protest against the insufficiency of the remedy which the Commissioners appear to have discovered in the Health Act of 1875.

If the present Government endorse the views of the Commissioners, and confine their endeavours to the question of injury to actual property, it is not likely that they will ever introduce a worthy scheme of sanitary reform. To put property before the general question of the claims of the population to be protected from headache and nausea is an offence against common sense and ordinary decency. It was, of course, unavoidable that the Commissioners should take some cognisance of the question as affecting health, because a great amount of evidence upon this point was brought directly under their notice. Accordingly we find that somewhat less than one page of their report is devoted to this branch of the subject. The statement of the case for the public is almost entirely left in the hands of Mr. Simon. It is the only evidence which is quoted under the heading of Health; and the Commissioners introduced it as follows:—"Mr. Simon has stated with great force and clearness the right of the public to be protected from this class of injuries." Mr. Simon concludes his evidence by saying, "I think that those who are fighting for public health may claim of the Legislature that any pollution of the air, such as may make a common nuisance either in stink or in dust, or

* There has been a great change in this respect with regard to our brain-workers. Gibbon, the historian, never left London except upon visits to the country, which it would have given offence to decline, but the change was never made on account of health. Newton, according to Dr. Whewell, resided in Trinity College "for thirty-five years without the interruption of a month."

* Acts of Parliament which touch upon smoke do not deal with the general question.

which causes coughing, shall be called a nuisance injurious to health, and come under the Sanitary Act." Most persons will be inclined to agree with Mr. Simon, and wonder at the same time that the Commissioners, with such evidence before them, did not take that broader view of the question of a pure atmosphere in which not only persons suffering from the stench of the noxious vapours of Widnes and St. Helen's and Blackheath, but the nation at large, is so deeply interested.

In that portion of their report which deals with the question of inspection under the Alkali Acts they quote the evidence of Mr. Hussey Vivian, the nature of which may be gathered from a single sentence. "If the law," says Mr. Vivian, "is at fault [with regard to the recovery of damages], let it be amended; but it is unjust to expose particular trades to special supervision and to interference with their processes." Instead of repudiating this view of the matter, which would make a vested interest of every stench in England so long as it did not kill a sheep or an oak-tree, the Commissioners sympathise with it in the following paragraph:—"It must be owned that (except so far as the Salmon Acts form an exception) the Alkali Acts were the first and are the only Acts which sanction the expenditure of public money on inspection in cases where the object of such inspection is simply, or, at all events, mainly, the protection of private property." When such a misconception of the first duties of Government in the matter of sanitary reform existed in the minds of the Commissioners, it is hardly to be wondered at that persons directly interested in the pollution of the atmosphere should express somewhat extraordinary opinions.

A good deal of weight is given by the Commission to a consideration of the danger of pressing too hardly upon manufacturers engaged in offensive processes, because of the injury which may be inflicted upon the employed. Arguments of this kind are, no doubt, useful to the manufacturer. By urging them he assumes the position of a special Providence who comes between the workman and distress. It is urged that employment of labour is of such paramount importance that foul air is not to be weighed against the necessities of the working-classes. But the employer does not maintain this position any longer than it suits his convenience to do so. If machinery were invented that altogether did away with the necessity for manual labour in the chemical trade, no one pretends that the employer would refrain from adopting it because of its stamping out the occupation of persons previously employed in it. If the argument about the labour necessary in conducting noxious manufacturing processes is worth anything, it ought only to be used between the public and the working-classes. It ought obviously to be out of court when urged to support such flagrant attacks upon the rights of the population as those which are being made at Blackheath and elsewhere in the neighbourhood of London, not to speak of other districts already referred to. It is the working-classes who are really most deeply interested in an uncontaminated atmosphere. Other sections of the community are better able to please themselves in their choice of residence, and if these trumped up arguments based upon the necessities of the working-classes had never been listened to either inside or outside the Houses of Parliament it would have been much better for the working-classes to-day. When a manufacturer has discovered a process which appears to offer a safe investment for his capital, there is no doubt it will be worth the additional expenditure which is required to make it innocuous. From the labour point of view, the great majority of improvements in chemical processes have the saving of labour for their object. Why, then, should they be allowed to come into existence at the expense to the community of an amount of discomfort and annoyance that is frequently intolerable? When the manufacturer alleges that they give employment to the working-classes, it will be found in many cases that this argument is not only unfair, but the statements made to support it are untrue, as frequently the *offensive* process employs less labour than the older industry supplanted by it. Referring to the Alkali Act of 1874, the Commissioners quote the evidence of Mr. Fletcher, which bears directly upon this part of the subject. He says, "The fruit which the new Act is bearing we see daily becoming more developed. The pressure which it has brought upon manufacturers has stimulated invention, and already four new forms of furnaces are suggested for carrying on that part of the process in which the principal acid escape takes place. . . . . The adoption by the manufacturers of the best of these will certainly have a marked effect for the better on the vegetation of the damaged districts."

It has already been explained that hitherto the efforts of the Legislature have been confined to that section of the general question of sanitary reform in which the workers in essentially noxious processes are, or ought to be, prohibited from polluting the atmosphere. The first Alkali Act was passed in 1863, to provide against an injury to public health and private property, which combined the offensiveness and effrontery of manufacturers already referred to, in such a degree as to make the interference of the Legislature absolutely necessary. The operations of this Act were somewhat extended in 1874, but beyond this, and the appointment of the Royal Commission, whose report was issued in 1878, nothing has been done. Whatever may be the intentions of the Government in the present or ensuing sessions of Parliament, it would be well for their own reputation and for the interests of the public if they extend their views beyond the question of injury to private property towards that broader aspect of the subject in which the whole community are so deeply interested. Even supposing the first section of the problem is solved with regard to noxious vapours proceeding from offensive manufacturing processes, there still remains the second and larger one which has hitherto remained untouched. This has already been spoken of in connexion with the change produced by it upon the physical conditions that surround the inhabitants of large manufacturing towns, and the migratory habits which it has induced among the wealthy or the well-to-do. The question naturally arises,—is this physical ordeal the necessary penalty of national prosperity? Science having made the world dirty, is her next most pressing duty not to make it clean? Nor does science give a doubtful answer when called upon for a reply. Dirt is waste, smoke is waste, the very mud of our roadways is a waste of the expensive materials of which they are made, and everything that prevents this waste is not only a saving of material wealth, but of labour, and a substantial addition to the amenities of life. There are several industries in which a large consumption of coal is a necessary condition of their existence, and which were distinguished till within the last few years for an extravagant waste of fuel and a corresponding pollution of the atmosphere. And yet we now discover in some of these the first solution of the problem of complete combustion, and an illustration of how economy and cleanliness are allied to each other in the relationship of cause and effect. The open-topped blast-furnace is an example of an apparatus which was not only wasteful, but which poured the waste products of partial combustion into the surrounding atmosphere. The more modern form of the same appliance is one of the least offensive in the whole range of the iron industry. Such instances prove that not only is science capable of making the world clean again, but they also show that the present pollution of the atmosphere in large towns is an offence against scientific principles. In the case of the consumption of fuel for domestic purposes, which is the cause of so much dirt and annoyance even in a city like London, where the manufactories are comparatively few, a remedy could certainly be found if it were diligently looked for.

Although the question of the nuisance arising from coal-smoke hardly came within the instructions to the Commissioners, they took evidence on the pollution of the atmosphere arising from the coking process, which Mr. Lowthian Bell estimates throws about 2,000,000 tons of volatile matter into the counties of Northumberland and Durham alone. The pinch which was brought upon the coke-makers during the late rise in the price of coals induced several of them to introduce improvements, which, like the blast-furnace, prove the inseparable connexion between cleanliness and economy; and the Commissioners are to be congratulated upon having introduced into their report a series of recommendations with regard to coke-making that, in the event of their becoming statutory, will make the use of these improvements compulsory. It is to be hoped that this first case of dealing with the nuisance arising from smoke by proposing to force the manufacturers to adopt scientific methods which have not only proved to be consistent with public comfort in the matter of pure air, but of monetary advantage to themselves, will only be the beginning of a long series of efforts in the same direction. Among all the manufacturers of the United Kingdom there are none who are in a better position than the Government itself to take a lead in the question of a sanitary reform of the atmosphere. They may be said to be the largest firm of coal-consumers in the country. They have numberless practical opportunities of testing the merits of any scheme that recommends itself as a likely remedy for the evils complained of, and they have an unrivalled staff of scientific advisers to whom they can always refer.

The recommendations of the Commissioners, with which they conclude their report, will be a valuable addition to the statute-book if they are turned into an Act of Parliament; but any Government which is to become distinguished for the part they have taken in the department of sanitary reform must go beyond the limits of the Alkali Acts, and it is to be hoped that the present Government will make a strenuous effort to do so, and to extend the blessings of pure air to every town in the three kingdoms.

THE ARCHITECTURAL CONGRESS IN PARIS.

THE whole of last week was pleasantly filled by the Architectural Congress; the weather was delightful, and though more than one worthy representative of the seventeen provincial societies that correspond with the Paris Société Centrale had prudently armed himself with the traditional June umbrella, its aid was never called into requisition. The meeting was eminently successful, even if it could not be called a brilliant one; the outside public remained from Monday to Saturday, completely indifferent to the Congress and its pleasant excursions, the very journals not having devoted a word to its doings; on not one single day was a pretty bonnet or a smart dress to be seen on the severely brown-holland covered benches of the Hemicycle, and with the exception of the three fair sister arts of Architecture, Painting, and Sculpture, with the figure of Fame distributing her laurels, represented in the picture with which Delaroche has made the Hemicycle famous, not the most confirmed misogynist could have had reason to complain of the slightest element of female distraction in the Congress. The programme, as it was published, was admirably carried out, several interesting little additions being made.

The discussions on the several important points of the diploma, public competitions, architects' percentage and fees, and artistic copyright for works of architecture, although yearly taken into consideration by the Congress, cannot be said to have advanced the unsatisfactory condition of those much-vexed questions; indeed, little was agreed upon, except that something was necessary to be done. The question of percentage and fees raised the most animated discussion, it being determined that the opinion of the provincial societies of France should be collectively gathered on this point, and submitted to the consideration of next year's Congress.

M. Raulin's paper on the architectural exhibits at the *Salon*, was a careful and very long account of apparently all the works in the two rooms of the Palais de l'Industrie. As we are speaking of the criticisms of architecture at the *Salon* it is curious to note how in the article which the current number of the *Revue des Deux Mondes* devotes to the *Salon*, in the few paragraphs in which it thinks fit, this year, to treat of the architectural exhibits, the same view is taken by a French writer as that expressed in these columns last week by an English writer. The article deplores "the sterile learning shown in the erudite restorations, a learning which ends by paralysing all initiative, and crushing it under the weight of the art of the past."

If the discussions of the week awoke little interest, the visits of the Congress were all eminently successful. The Lycée of Vanves was visited on Tuesday, and on Wednesday, the new École de Pharmacie, which is being built on the south side of the Luxembourg Gardens, an important building which will cost probably a quarter of a million sterling. The architect, M. Laisné, per-

sonally showed the Congress his building, which is of considerable extent (covering nearly 11,000 square yards), and divided with scientific consideration into various departments to suit the numerous necessities of so important a school, one of the few in France. M. Bailly, the president of the Société Centrale, was only expressing the views of all the visitors when he warmly congratulated M. Laisné on his great work,—one in which, let it be remarked, architecture proper and fine art play, as they seem destined in the present day to play, but a very small part. As the architect observed, there is not two sous' worth of sculpture in the whole of the building, which is, however, a good specimen of scientific engineering and hygienic architecture.

The Thursday's visit to St. Germain-en-Laye (in the morning the Hospice at Vesinet, by the late M. Laval, had been visited) was one of the most interesting and instructive of the whole Congress. M. Bertrand, the learned and unaffected director, conducted the whole party over his museum of Gallo-Roman antiquities, of which perhaps the most marked feature among the many marvels is the scientific arrangement of its thousands of exhibits; from pre-historic times down to the Middle Ages can be traced the whole industrial development of the human race, for, as remarked the director, in Gaul have been found remains of nearly all the civilisations which have aided to form modern Europe. The museum, let it be observed, in which several rooms as yet not opened to the public were shown, is installed in the old château of St. Germain (occupied by James II. of England) restored by the late Eugene Millet; his drawings and plans for the restoration consisting of nearly 400 sheets, not including the innumerable sketches and less important studies, were examined with great interest by the Congress. The work was no light one, as the condition of the château before Millet commenced his work in 1855 was lamentable to behold; the château such as it existed in the reign of Francis I., with its red brick and white stone dressings showing exteriorly and interiorly in every portion of the four stories, together with the beautiful chapel of St. Louis, had all to be restored. The chapel is progressing; on Thursday the visitors were able to see the state of the work. The exquisite rose-window of the thirteenth century which was discovered walled up some ten years since, is being slowly restored, but unfortunately it can never be anything but a false window, as against it has been built one of the wings of the castle. M. Bailly suggested for the decoration of this false window an ingenious method which he has employed at Limoges with great success, consisting in filling in the compartments of the window with modern Limoges enamel.*

Thursday's excursion, after a homage paid to the tomb of Millet in the cemetery of the town, was pleasantly closed by a visit to the Hospice of St. Germain, the design of M. Normand, the courteous secretary of the Société Centrale. Here, again, as he informed his guests, his architectural bent he had had to suppress; but let us hasten to add, however, that the utility and scientific arrangement of his creation add to it a beauty which perhaps outbalances what æsthetic elegance he would in other circumstances have been able to show in his design.

On Friday we were in part disappointed of a treat. M. Charles Blanc, the eminent Academician, was unable to read his paper on the "Rudiments of Ædility," though he kindly came to explain personally the cause for his forced absence. The paper was therefore read by a friend. It was as we anticipated, a chapter of the work which M. Charles Blanc is about shortly to publish on the "Decoration of our Cities." We may only venture one criticism on the ably-expressed views of M. Charles Blanc. In his condemnation of a regular or chess-board system of laying out cities, it is evident that the venerable Academician has never visited the great cities of the United States. Had he done so, he would have ceased to believe that the regularly-planned chequers which look so monotonous on the map produce in reality this effect; while the convenience of the broad avenues, intersected by their numbered streets, planted with trees, facilitate to an extent unknown in Europe travel from one part of the city to another. From an artistic point of view no one, however, can disagree with M. Charles Blanc when he so poetically admires the picturesque effect produced by the hazard of centuries, which is to be met with in "the old country."

Let us not forget to mention the interesting paper read (on Wednesday) by the venerable M. Lenoir on the "History of the first Stone of an Edifice." It was, indeed, a pleasure to hear the learned author and archæologist, whose name and works are so familiar to the world, give us the modestly-presented result of much labour and fruitful research on a subject of such interest to those whom he addressed. (An epitome of this we print elsewhere.)

On Saturday M. Turquet, the Secretary of State for the Fine Arts, who was expected to be present to preside over the distribution of the medals, was unfortunately unable, from press of political business, to carry out his intention, much to the regret of the audience.* The medals were, however, distributed by M. Bailly, the president of the Société Centrale, to the architect of a meritorious specimen of private architecture, to a pupil of the French École de Rome (usually presented to a pupil of the École d'Athènes), this year it being given to M. Loviot for his polychromatic restoration of the Parthenon. The other medals were then distributed to a member of the *Cercle des Maçons*, the various members of the building trade, to a number of praiseworthy workmen, carpenters, wood-carvers, iron-workers, a painter, and two intelligent young apprentices.

The business of the Congress was closed by an instructive lecture, charmingly enlivened by amusing anecdotes, delivered by M. Desjardins, of the French Academy, on the Maison Carrée at Nimes (built in the year 1 of our era) on the Arch of Orange and the Tomb of St. Remy.

In the evening a "confraternal dinner," at the Grand Hôtel, terminated pleasantly the eighth Architectural Congress of the Société Centrale, which M. Bailly, the excellent president, M. Charles Lucas, M. Normand, the secretary, and M. Sedille took so active a share in preparing and conducting.

Among the unexpected additions to the programme, let us not forget to mention the interesting show of a large number of careful water-colour drawings from the ninth, tenth, and thirteenth century frescoes which once decorated the interior of the archaic and picturesquely situated cathedral of the Puy and the neighbouring chapel of St. Michel. M. Mallay, the architect, explained how, when he was called upon to restore the cathedral, many years ago, the ruined state of its cracked walls utterly prevented him from preserving the unique frescoes on the walls, but of which he prepared a series of careful copies. These frescoes possess a peculiar interest as showing strongly the influence of the Moorish occupation of the country during the dark ages.

As we are speaking of the east of France, let us mention that in August next will be opened at Clermont-Ferrand, not far from the Cathedral of Puy, and near Lyons, an archæological and fine-art exhibition of some importance. M. Mallay invited cordially all the members of the Congress who might intend to go to Clermont not to fail to pay a visit at the same time to the Cathedral of the Puy.

"Beautiful Water."—In Avenham Park, at Preston, there is a spring of water as clear as crystal, and for generations it has had the reputation of being the best water procurable anywhere. A few years ago, a very handsome drinking-fountain was erected by the corporation to make the spring available to the public. The water flowed into a large shell of white marble, through the mouth of a dolphin, sculptured in serpentine, and the housewives for half a mile round have been in the habit of sending to the fountain for canfuls of the water for tea, it was "so much better" than the Longridge supply. But the sanitary committee took it into their heads the other day to have the water analysed, and it turns out that it contains "ninety parts of animal matter." They ordered the spring to be diverted at once, and men are now engaged in making the necessary arrangements for supplying the fountain with Longridge water. This paragraph, cut from the *Liverpool Daily Post* of the 21st inst., is but an old story re-told, and still requiring telling.

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* M. Morel, the publisher, promises the publication shortly of a pamphlet on the works of the late M. Millet, who was, in addition to his position at St. Germain, architect of the restoration of Rheims Cathedral.

* The sole mention of the Architectural Congress by the Parisian journals consisted of the erroneous announcement in Sunday's paper of M. Turquet's presence on this occasion.

THE HISTORY OF THE FIRST STONE OF AN EDIFICE.

AMONG the several instructive papers read at the recent Architectural Congress, held at Paris, none partook of a more general interest than M. Lenoir's communication on the "History of the First Stone of an Edifice."*

The name of Lenoir has been familiar to the profession of both hemispheres for two generations, and the son of the Alexandre Lenoir to whom France owes the formation of the famous Musée Français, the origin of the Cluny Museum, and the existing École des Beaux Arts, is no less familiar to the artistic world as the author of a number of esteemed works on architecture and archæology.† Though only a sketch, as the author of the paper modestly claimed it to be, it will be seen that the outline is well marked in.

The custom of preserving the remembrance of the foundation of the edifice, and of giving it a species of sacred character, reaches back to great antiquity. We can follow it from century to century, and numerous inscriptions and monuments show how universal with all civilised people has been the desire to transmit to posterity the memory of the founder of the great works which the world owes to architecture. The dispositions taken are in general the same; they consist in making use of one of the stones placed in the foundations to preserve the date of the event, the names of the founders, their object, and what other information they considered important.

Asiatic antiquity does not furnish us on this point with other information than that to be gathered by the aid of Epigraphy. Egypt has handed down to us inscriptions traced on plates of gold, and placed between the lower courses of the temple erected. In ancient Europe a few texts, but especially the inscriptions found, connect the chain of facts. In the Middle Ages inscriptions were traced on foundation-stones. More than one account of the ceremonies observed, more than one epigraphic monument, have been preserved to show how universal was the custom. Finally, numerous modern writers have transmitted to posterity the inscriptions cut on the stones, by means of which the names of the ruling contemporary magistrates, and of the artists and executors of the work, have been preserved.

Asia supplies us with few direct references to the custom of the consecration of the first stone. But the learned archæologists of France and England who have explored Chaldæa and Assyria have transcribed several precious inscriptions in cuneiform writing, found at Babylon, Nineveh, and elsewhere. From the earliest date the foundation-stone is always mentioned as occupying one of the angles of the edifice; this position, adopted from the very origin of Asiatic civilisation, is indicated in an ancient Babylonian legend quoted by Berosius, and which attributes to a mythic king named Xisuthus the preparation of the sacred tables, which he placed before the epoch of the Deluge in the angular stone of the temple of Sippara, the Sepharvaim of Scripture. An inscription of king Nabonimtouk, found at Mugheir, relates how the storm of the waters having inundated everything, had made a ruin of the temple; that he had found the corner-stone, sought in vain by the kings his predecessors; that he bore the name of Sagaratiyos, the king of Babylon, who had laid this corner-stone. These, with other quotations that might be mentioned, show the customary proceedings in the case of the temple; the references, indeed, are numerous on engraved texts and elsewhere, all concurring in attributing the same disposition relating to the position of the first stone. On an inscription of Larsam, Nabuchorosor says,—"I have laid deep down the corner-stone in the lowest depths of the vast earth," adding how he has related the circumstances on cylinders covered with bitumen and bricks. The king Sargon of Scripture, who built his palace in the city which he founded not far from Nineveh, and now known as Khorsabad, in an inscription says,—"I have written on tablets in gold, in silver, in antimony, in copper and in lead, the glory of my name, and I have placed them in the foundations."

* By the kindness of M. Lenoir we have been enabled to take from his original MS. the following summary, which we submit to our readers.

† To mention even a portion of the works which M. Albert Lenoir has, during his long life, produced, is beyond the limits of a foot-note; suffice it to recall his "Architecture Monastique," his "Architecture Militaire," his "Monuments Religieux du Moyen Age," and his "Statistique Monumentale de Paris."

If from Asia we pass to Egypt, a country the civilisation of which is far anterior, we again find the connexion of the foundation of the temples with the kings; but the ruins so often described have furnished no traveller with documents analogous to those found in Asia, a fact probably in great part owing to the nature of the explorations made, which consist of little else than clearing away from the monuments the accumulated sand of centuries. After the conquest of the country by Alexander the Great, and under his successors who ruled over Egypt, the old customs were revived. A curious inscription found in the ruins of Canopus furnishes us with a proof of this. When the Pacha Mehemet Ali governed the country he cleared out the old channel of communication that existed between Alexandria and the Nile in order that the vessels might avoid the dangerous passage of the bar of Rosetta. In 1818 the workmen, removing the materials they had dug up from the ruins of the town of Canopus, found in a foundation-stone of a building, and placed between two glazed tiles, a gold plate,* some 6 in. long, about 2 in. broad, and on which was traced with the point a Greek inscription relating how Ptolemy, son of Ptolemy and Arsinoë, had consecrated a temple to Osiris. It was this same Ptolemy who restored to their temples the divinities which had been carried off by Cambyses.

In Greece the foundations of every important building were laid with much religious solemnity. Pausanias (book i., chap. 42), in his "Journey to Attica," describing the monuments of Megara, relates how one was shown near the sanctuary of the Prodomian deities a large stone on which an inscription stated that Apollo had presided over the foundation of the walls. The Prodomian divinities were, we see, invoked when an edifice was commenced; Hera (Juno), was surnamed Prodomia, as she was one of those deities.

In Etruria, again, we find religious ceremonies accompanying the foundation of all temples. Vitruvius, in explaining (bk. vi., ch. 4) the proceedings necessary for the foundation of a building, does not mention any special ceremony, but the Romans, like the Greeks, we know, sacrificed on such occasions to Juno, whom they surnamed also Prodomia, as presiding over the foundation of edifices.

A century after Vitruvius, Tacitus, in his "Historiæ" (bk. iv.), speaking of the reconstruction of the Temple of Jupiter Capitolinus at Rome, describes at length the religious ceremonies that accompanied the laying of the corner-stone; the objects placed with the stone; the presence of vestal virgins, of young boys and girls; how the prætor and the pontiff touched the cords by which the stone was suspended; how eventually the magistrates, the senators, and the people, "filled with ardour and joy, commenced to move the block, which was of great size, into the place which it was finally to occupy"; nor did they neglect to place in the foundation-stone gold and silver coins, together with pieces of metal that had never passed through the crucible.

This antique custom, which the East had transmitted to us, and which had existed all through paganism, received an analogous application when, from the reign of Constantine, the Christian religion became free to erect its places of worship; the observance being further supported by the words of Christ himself, who, it will be remembered, designated Peter as the stone on which he would build his church,—an allusion to the antique custom. From this period, not a basilica, not an oratory, not a monastery, or an important edifice, but over its foundation-stone the customs bequeathed by antiquity were observed with even more religious solemnity, the sign of the cross being usually carved on one side, conformably to directions.

The early ages of Christianity, though they furnish mention of the building of three great cathedrals and religious edifices, supply no mention of the foundation-stone. It is from the Middle Ages that have been handed down to us the most complete epigraphic monuments, as also the most explicit documents. These documents are of three descriptions: the texts of chroniclers and authors, the commemorative inscriptions placed in the church, and, thirdly, the actual foundation-stones.

Perhaps the text which affords the most precise details which have been handed down to us is the history of the Abbey of St. Denis, by the Abbot Suger, and Michel Felibien in his history of the monastery. The Abbot Suger, rebuilding the church which, founded by Pepin and Charlemagne, required to be enlarged, thus refers to the laying of the foundation-stone:—'We descended with humility and devotion into the trench cut to lay the foundations of the edifice; the bishops themselves had mixed the mortar with holy water; after invoking the Holy Spirit in order that the happy commencement of the house of God should have a good end, they placed the first stones, singing psalms. The most holy king himself descended into the trench, placing the stone with his own hands; many other persons, abbots, and monks laid also other stones; several of those present through love and respect for Christ, threw rings into the foundations, singing *Lapides preciosi omnes muri tui*." This ceremony took place at the façade of the church under the reign of Louis VII. (1140). It may be mentioned incidentally that John, canon of St. Victor, says that Pope Alexander III., then in exile in France, laid the first stone of the church of Notre Dame, in 1163 (MS. in the Bibl. Nationale).

Three inscriptions commemorating the laying of foundation-stones may be mentioned as existing in churches: one in Germany, one at Montbrison, and the third in the neighbourhood of Paris. The first is in the church of St. Querin of Neuss (near Düsseldorf), which merely mentions the laying of the foundation-stone in 1208; the second, more detailed, relates that in 1226 the foundation of the church of Montbrison had been laid by the young Count Guy V., then a child. The third is in the church of Garches, near Mont Valérien, founded in 1297.

The city of Paris furnishes two examples of foundation stones of the fourteenth and fifteenth centuries, especially interesting, as both were found on the spot where they were laid by their pious founders. When in 1847 the Church of the Celestines was destroyed to erect the cavalry barracks that now occupy its site, M. Chasles, the city architect, found under the wall of the apse, and in the line of the axis of the monument, a cubically-shaped stone marked with a cross of four branches, each terminated by a lily, and on the upper face of the stone an inscription relating how the stone had been laid in 1307. The other stone is no less interesting, and shows the care that architects should invariably take in collecting all the more curious remains of the building they may be called upon to restore. In 1812, when the church of the Carmes in the Place Maubert was demolished to make room for the market of that name, the foundation-stone of the church was found, and on it an inscription stating how it had been laid in 1409. Both these inscriptions will be found figured in the learned work, "Architecture Monastique," of M. Lenoir. The inscriptions are both cut on simple squared blocks, for it would appear that for a long period the first stone has received no special form or ornamentation.

At the epoch of the revival of art and letters, when architecture received in Italy the impulse of antique inspiration, the popes who reigned in the fifteenth and sixteenth centuries patronised architecture generously, and Martin V., Nicholas V., and other pontiffs have transmitted the memory of their works in more than one medal. Paul II. placed his effigy in the first stone of the monument he erected, an action that his contemporaries did not fail to regard as ill-placed vanity.

It would be a difficult task to quote all the ceremonies that accompanied the laying the foundation of the monuments of modern Italy; suffice it to reproduce from the historian of Rome, Gregoronius (tom. vii., pp. 151, 152), the remarkable solemnities by which were consecrated the foundations of the new basilica of St. Peter's, under the pontificate of Julius II., April 18th, 1506. "The pope left processionally the high altar of the old church, and directed himself to the trench which had been dug in the soil, and then, without faltering, although so old, he descended by the ladder to the bottom, which seemed to be an abyss; two cardinal deacons, masters of the ceremonies, and a few persons only accompanied him; a goldsmith then brought in an earthen vase twelve medals expressly struck for the occasion; two large medals in gold, the others in bronze, with inscriptions relating to the solemnity; these were then buried. The symbolic stone of white marble having been laid among the masonry of the foundations those present then proceeded to its consecration."

The remarkable monuments seen in Italy by the French during the wars of Charles VIII. and Louis XII. stimulated in France a Renaissance of architecture, and a transition was established between the new style, and that which preceded it, and many important edifices were erected; among these, Cardinal George d'Amboise, founded in 1502 the Château Gaillon. In 1522 the architect, Charles David, prepared for the Provost of Paris the first stone of the church of St. Eustache, which is always considered as the most important edifice of the architecture of the Transition in France.

In 1610, Queen Marguerite of Valois laid the first stone of the façade of the church of St. Étienne du Mont, in which can still be traced some remains of the past art. The revolution was complete, however, when, in 1627, King Louis XIII. laid the foundations of the church of the Jesuits of the Rue St. Antoine, the architect of which, Muriel, was a monk of the order; this edifice is a mere imitation of the Italian style. In 1645, Louis XIV., then a child, laid the first stone of the Val de Grace, the design of François Mansard, and a gold medal was specially struck for the occasion; on the reverse figured the façade of the monument. This medal was placed in the stone; the same ceremony was observed with the first stone of the Invalides in 1670. In the middle of the eighteenth century the first stone of Soufflot's Church of St. Geneviève (later on to become the Pantheon) was laid by Louis XV. (1764), who employed Machy to paint on an immense canvas stretched on a frame the finished representation of the portal of the façade.

It will be seen by this citation of a few isolated facts how, through different ages, the corner-stone has always been regarded with veneration. The nineteenth century affords even more numerous instances than those which preceded it; nor has the significance of the ceremony that attended the laying of the first stone been in any way lost. No important edifice is now erected but what two stones of considerable dimensions are specially prepared and placed one upon the other, the lower being provided with a cavity destined to contain an inscription engraved on metal or written on parchment, and indicating the name of the building, the object of its foundation, together with any other information that may be thought proper to register; nor is the old custom of burying coins neglected, a series of the moneys of the realm, freshly minted, being often deposited in the stone.

In Catholic countries the clergy bless the stone and what it contains; the second course is then placed on the first. In England the ceremony that accompanies the laying of a first stone is no less solemn. Only very recently the laying of the first stone of Truro Cathedral by the Prince of Wales was the occasion of the observance of a number of interesting Masonic formulæ, of great antiquity and a deep meaning.

The custom of consecrating the first stone of edifices we see may be traced back to the most primitive civilisation, and has always been attended by some personage of high position; to this very day, sovereigns and the highest dignitaries conform to the usage. In modern times popes, princes of the church, and kings, have not disdained to lay with their own hands the first stone of the foundation of the public edifices in their realm. Probably no fact more significant could be brought forward to prove how great has been the respect which at all periods of history it has been believed necessary to pay to the work of the architect.

The Proposed International Exhibition in Rome.—The project of an International Exhibition, to be held in Rome in 1885-6, is being ventilated. The site which would be adopted, if the various owners of land will come to terms, is outside Porta Pia and Porta Salara, that is, on the north side of Rome; and it certainly presents great advantages. An English firm is stated to be ready to advance the necessary sum when the scheme assumes serious proportions. A journal, under the heading, *Roma: L'Esposizione Mondiale*, has been started to further the idea, and gives plans and elevations of the proposed buildings.

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* This inscription found at Canopus was sent by Mehemet Ali through Mr. Salt, the British Consul in Egypt, to Sir Sydney Smith, who, at a later period, submitted it to the French Academy of Inscriptions. M. Lenoir possesses a rare copy of the *facsimile* printed by the Academy at the time. It would be interesting to know where this gold plate rests at the present moment. As for the glazed tiles, one, it would appear, was green, the other blue, both colours regarded as sacred by the Egyptians. It is a curious fact that the chemists have not been able to find any trace of cobalt in the blue, nor of copper in the green.

THE LONDON WATER-SUPPLY COMMITTEE.

THE sittings of the Select Committee of the House of Commons appointed to inquire into the water supply of the metropolis commenced on the 15th of June, under the presidency of the Home Secretary. No less than fourteen counsel, nine of whom are Queen's counsel, appeared for the Corporation of London, for the Metropolitan Board of Works, for the Associated Water Companies, and for the Kent Water Company. Copies of the charter and Acts of Parliament of the New River Company, and of the Metropolitan Waterworks agreement, were supplied to the members of the committee. Statements as to the statutory powers of the companies and abstracts of their accounts were also forthcoming.

To those of our readers who have given attention to the series of articles which have appeared in the columns of the *Builder* on the subject of the water-supply of London, the points which were first elicited by the committee will not appear novel. But to that great mass of the public which assumes that careful professional investigation is a necessary preparation for a Bill dealing with an expenditure of from thirty to forty millions of money, one or two very simple, but very significant, questions, put by the chairman of the committee, must come with the unexpected force of thunder-claps in a clear sky.

Mr. E. J. Smith, the first witness examined, has already appeared in the columns of the *Times* as the urgent supporter of the agreements for purchase. He now showed the difference between an advocate, and a witness under cross-examination. It appears that this gentleman conducted the negotiations with the water companies on the part of the late Government. We gave our readers, they will, no doubt remember, the main points on which an impartial valuation must necessarily hinge. Mr. Smith's evidence supplies the assumptions on which he proceeded to deal with the facts which are established. "It was thought," he said, "that competition was impossible." Many other persons have thought the same. But so to think was simply to beg the whole question, and to vitiate the whole calculations of value from the very bottom. This is one of the first points on which we have always insisted, and the adoption of such a view explains almost all those provisions which we ventured to condemn.

The first point, however, on which the investigators stumbled, to the manifest and not unnatural surprise of the chairman, was the absence of any such basis for negotiation as would be supplied by the report of an engineer or architect on the nature and condition of the property to be purchased. Such an omission is, we should fancy, without precedent in an affair of such magnitude. It can only be, not justified, but at all understood, on the ground of the original assumption. Admit for a moment that the companies held a position in which competition was impossible, and the hurry of the case becomes intelligible. "We must have the property; we cannot do without it; it will cost an enormous sum to take it by force; anything under that sum is clear gain. Good state or bad state, we must take the works as they are, and the bargain which is possible to-day will be impossible next year." So we say too. But we add that it was impossible from the moment that any one had the means of asking Parliament or a Parliamentary committee certain questions to be found in our columns.

In fact, one remark made by the Home Secretary is couched in language so identical with that to be found in our columns, that we feel it due to our readers to remark that our article on the subject in last week's *Builder* was in type before the report of the proceedings of the Committee. "One of the great vices," said the chairman, "of this calculation is, that you have not deducted interest on the new capital necessary to earn the increment of income in estimating the net income of the companies." When we place side by side with this remark, which goes to the very heart of the agreements, the question "Do I understand you, Mr. Smith, to say that there were no original reports of the condition of the works of the companies before the Bill was introduced into Parliament?—a question answered in the negative; and the question as to the valuation of the gross income of the Chelsea Company, and the figures on which the estimate of increment was based, we hardly wonder that the chairman intimated that he would seek information elsewhere.

In fact, we are told that the witness admitted to the fullest extent the proposition of the chairman that if interest on the increment of capital had been omitted in the calculation of the increment of increased profit, "all the calculations on which the agreement with the water companies had been framed would be wrong." In an inquiry of this magnitude we must avoid too much detail, and therefore omit the questions as to the Chelsea accounts. But dealing with the whole state of the case in block, if the increment in the gross income of the companies is to continue, year by year, at the same rate as that which has been maintained for the last five years, this is only to be done either by raising the rates, or by extending the works. Mr. Smith says that he took the increment on the probable increase in the number of houses. So do we. That, we conceive, is the only *right* mode of taking it. But that mode implies providing for the increase in the number of houses,—that is, increasing capital. In the past five years the aggregate increase of gross income received by the companies was over 21 per cent., or 4¼ per cent. per annum. The increase of expenditure has been 17·8 per cent., or a little over 3½ per cent. per annum. But the difference between these two increments does not represent the increment of net profit. According to the figures scheduled in the Bill, it does. But the same experience that leads us to expect (under certain conditions) that increase of income, points to the anticipation that the increase of capital required in order to earn it will be at least 12½ per cent.; or, in other words, will march with the increase of population in London at the rate of 2½ per cent. per annum.

The result, then, of the first day's inquiry is simply this,—applying the language of Mr. Smith to the facts of the case,—"all the calculations on which the agreement with the water companies was based are wrong." That is pretty well for one day's progress.

The evidence given on the 18th of June, the second day of the investigation, is no less fully in accordance with the views we have previously advocated. The inquiry as to the calculations respecting the Chelsea Company was renewed. It will be seen from our own columns (*ante*, p. 301) that the sum which Sir R. Cross's Bill would have authorised as payment for this undertaking was 2,248,000*l.*, the cost of the works having been 1,140,198*l.* We refer for details to the report of the proceedings of the committee,—only taking the present occasion to insist upon the difference between the mode of valuation which we suggested, and the complex and unsatisfactory muddle actually made. Whatever the net return of one company,—which an actuary would have no difficulty in ascertaining,—the equivalent of its maintenance in perpetuity is the first item to consider. That equivalent is equal to a thirty-three years' purchase. Then comes the question of future increase of profit,—minus increase of capital. This may be put down at about 15 per cent. on the former sum, all round. Anything beyond these two items is compensation for compulsory purchase. On this ground, and, as it seems to us, on no other, can a satisfactory valuation be based. The chairman said,—"You propose to give the Chelsea Company 1,302,000*l.*, plus 441,000*l.*, as the present value of the additions." We hope that some member of the committee will look at the list we have given of the items comprised in the Bill (*ante*, p. 302), which bring up these figures to 2,248,000*l.* Forty years' purchase is the amount stated before the committee. It is really much more.

In East London, the dividend for last year is stated (roundly) as in our columns. Forty-three years' purchase of this net income was allowed by Mr. Smith. Our own estimate of the allowance made by the Bill was 40·2 years' purchase, but our figures include the redemption of the loans,—and no notice is taken of that in the figures on which the Bill was based. The purchase of the Grand Junction is put down at "about 42 years' purchase on last year's net profits." Taking all things into account, we arrive at 47 years' purchase. For the Kent Company the witness considered 42 years' purchase moderate terms. The figures come out at 45·5 years' purchase. The Lambeth purchase in the same way differs, if the question of the whole payment is left out of sight. The Committee have as yet only had their attention turned to the items comprised in in the first and second columns of the table (see p. 301, *ante*) which we drew up from the analysis of the Bill. Let us call their attention to the importance of also regarding the third column of that table. It amounts, as will be seen on reference to our pages, to 4,408,000*l.*; and high as the terms arrived at by the witness appear to be considered by the chairman of the Committee,—not, we venture to add, without reason,—the figures as to which any question has yet been put give a total which falls short, by that sum, of the actual total of 35,787,557*l.* given by us on the 13th of March.

It is as well to call attention to the fact that the relation between the market value of the shares of each company, and the total price at which each enterprise is purchased, is by no means simple. It varies in each case, the variation being principally due to the difference in proportion between share capital and loan capital, or capital with a fixed and low rate of interest. In bringing the leading features of the case before the public, we turned attention to what the public ought to know,—that is to say, to results in block; and we gave them in block for each company, as well as for all the companies together. It would have required as much space again as we gave to the inquiry to point out the relation of those figures to the corresponding value of each kind of stock. And such detail would have been foreign to our object, which was not to aid the speculator, or even to offer advice to the investor. We wanted to awaken the ratepayer to what was going on,—in which, as it appeared to us, on the best consideration we could give to the measure, their interests had been overlooked. There will thus be a difference in detail between our figures and those which have appeared, and which may hereafter appear, in the evidence. The difference, moreover, is in favour of the agreements, as the statement of Mr. Smith takes no heed of items 3, 4, 5, and 6, which are to be found in the Bill. We showed (p. 181, *ante*) that the capital value of the last year's net income of the companies was very close upon the capital value of twenty-five years' purchase of their maximum statutory dividends. The mean of the two sums was 29½ millions sterling. The difference between this amount and that which appears on the face of the Bill,—31,378,700*l.*,—is not the only point at issue, because the items "stock disposable for contingencies," "additional stock," "outstanding debts," and "conversion of loans," are not apparent without a careful reading of the Bill. To that we invite all concerned.

THE PAST AND THE FUTURE OF HOLYHEAD.

HIS Royal Highness the Prince of Wales, in regarding the noble steam fleet gay with bunting in the harbour and roads of Holyhead, and the excited crowd that collected in honour of a Royal visit, can have formed but a faint notion of the scene presented by the same vicinity fifty years ago. Standing at a turning-point in the history of the harbour, and looking forward to the prospect of its becoming a formidable rival to the Queen of the Mersey herself, it is instructive to glance back over the few years that have turned a desolate nook of Anglesea into a centre of land and ocean transport. In 1729, a payment of 50*l.* per annum by the Postmaster-General was authorised by an Act of Parliament towards the support of a lighthouse on the Skerries Rock, off Holyhead. This seems to be the first evidence of the use of this route for mail service. But a week spent in a little smoky room, waiting for a change of wind, was a frequent incident to the traveller during the eighteenth century. And when he got to sea, it was matter of incertitude how tedious the passage of sixty miles of Channel might prove. It was not until the union of Great Britain and Ireland made communication between London and Dublin a matter of importance to the Irish peers and members of Parliament that measures of improvement were proposed; one of which was the construction of a bridge over the Menai Straits. From 1810 to 1820 twenty-four reports on the subject were prepared by Public Commissions and committees of the House of Commons, the first of which recommends the expenditure of 67,862*l.* on the construction of a pier for the use of the sailing packets. In 1826, after the expenditure of nearly a million of money, the road was completed for the 267 miles between London and Holyhead. The

dangerous ferries between Conway and Bangor were bridged; and, thanks to the labours of Telford and MacAdam, the run from London to Holyhead was accomplished in thirty-four hours.

In 1819, the *Talbot* steamer, of 156 tons, built by Wood, of Port Glasgow, with two engines of 30-h.p. each, was first placed on the Holyhead station for the summer and autumn; and in the following year the *Ivanhoe*, with 70-h.p. engines, was added. In 1838 the railway was completed from London to Liverpool, and the latter city became the port for Dublin traffic. But Liverpool did not long maintain the command of the route. In 1849, twenty-three years after the completion of the mail-road at the cost of the State, the Chester and Holyhead Railway line was completed; the Conway river and the Menai Straits were spanned by the tubular bridges of Stephenson; and the journey from London to Holyhead was performed on an unbroken line of rail.

During the progress of these works the asylum harbour of Kingstown was completed, and the new refuge harbour of Holyhead was planned, as providing the best accommodation for the Irish mail service. The *Banshee* and the *Llewellyn* were then built by Government for the station, being vessels of about 700 tons burden each. Tht oscillating engines of the *Banshee* indicated 1,555-h.p., and the speed that she attained on the trial-trip was over 18½ statute miles per hour, or nearly 4 miles per hour more than had been previously attained by a steam-vessel. From May, 1850, to October, 1860, the mail-packet service was performed by contract by the Chester and Holyhead Company. Their vessels averaged the speed of 12 knots, or nearly 14 statute miles, per hour, making the run from the lighthouse at Kingstown Pier to the light at Holyhead in four hours and forty minutes.

On the opening of the turnpike-road to Holyhead, and the establishment of steam-vessels, the average time occupied in the transmission of the mails was reduced from a previous minimum of four days to an average of forty-three hours. The change to Liverpool, before described, reduced the time to twenty hours. On the return of the mails to the Holyhead route the time allowed for transit was sixteen hours from Dublin to London, and fourteen from London to Dublin, as the former journey had to be timed so as to make allowance for some irregularity in the arrival of the packets, while the steamers left Holyhead directly on the delivery of the mails from the train.

In 1855 an agreement between the Government, the London and North-Western Railway Company, and the City of Dublin Steam Packet Company, was sanctioned by Parliament, which provided for the accomplishment of the run between London and Dublin in eleven and a half hours; of which four hours were assigned to the sea passage, and half an hour for the run from Kingstown to Dublin. Four steam packets, each 300 ft. in length, and 1,700 tons, builder's measurement, were constructed for the service, with engines of 600 nominal horse power. On the trial trips the rate attained by these vessels averaged 17½ knots, or 20·3 statute miles per hour. In October, 1860, when two of these vessels, the *Leinster* and the *Ulster*, were completed, they performed the distance of 65½ statute miles from light to light in three hours and thirty-two minutes, being a gain of from 1·2 to 1·7 miles per hour on the former rate of the *Banshee*.

In 1858 plans were sanctioned by Parliament for building new piers, with quays upwards of 3,000 ft. in length, and completing the communication between the trains and the boats. The estimate of the cost was 425,000*l*. In 1862 the average of the 1,845 passages which had been made under the new arrangements was 3 hours 52 minutes for the 65½ statute miles of sea passage.

On the harbour and breakwater inaugurated on the 17th of June, 1880, above two millions sterling have been expended. Details of the principal features of the new works have been already given in our columns (p. 779, *ante*). The London and North-Western Railway system, the development of the original London and Birmingham Railway of 1833, carries 50,000,000 passengers in the year, or one-sixth of the whole passenger traffic of the English railways. Its total capital, paid up, and raised by loans and subscriptions, at the end of 1878, was 90,618,108*l*. Its length of line opened at that date was 1,676 miles, of which 382 was single line, and 1,294 double or more. The company possessed, the Chairman stated at the banquet, 2,200 engines, 40,000 wagons, 66,000 carriages, and 3,000 horses. The *Violet*, *Lily*, *Rose*, and *Shamrock*, the four new steam vessels constructed for the packet service, are of such light draught that they can ascend the Liffey to the quays of Dublin; and the loss of time and discomfort of the break at Kingstown will thus be avoided for the mails and passengers.

It is anticipated by the directors of the London and North-Western Railway Company that the great facilities and low charges of their new harbour will induce many American traders to make for Holyhead instead of for the Mersey. If trade follows the preparation thus made for its accommodation, it is not impossible that Holyhead may hereafter become a formidable rival to Liverpool.

PROGRESS AT THE BRITISH MUSEUM.

THE annual return to the House of Commons of the accounts of the Museum, with a statement of the progress made in the arrangement and description of the collections, and of the objects acquired by that institution during the past year, has just been published. From this document a considerable amount of information may be easily obtained, which will go far to show what great strides have been made towards the improvement, the popularising, and the general welfare of the Museum. The falling in of the generous bequest by the late Mr. William White has placed the sum of nearly 64,000*l*. at the disposal of the trustees, who have very wisely determined to spend some of the money in the erection of sheds in the inner quadrangle for the reception of ancient sculptures, recently housed in temporary huts under the colonnade and portico. This money has also put it in the power of the trustees to consider plans for adding to the Museum buildings. These improvements will embrace a substantial addition to the south-eastern side of the Museum, and an extension of the gallery for the exhibition of Greek sculptures. This work will be at once put in hand, and the removal of the remainder of the unsightly sheds in the front of the building will be hailed with delight by many who rightly consider that the façade of our national Museum should never have been marred by such constructions. The total number of visitors for the year amounts to 782,823, as against 611,612 in the preceding year. This increase may possibly be explained by the improved arrangement of open hours, whereby the Museum is now rendered available as a place of study or amusement every day in the week, certain rooms and galleries being closed for necessary purposes at times when the other parts remain at the pleasure of the visitor.

Progress has been made in the arrangements for the removal of the Natural History Collections, and in preparations for their reception in the new building designed for them at South Kensington. New cases and fittings with the latest improvements have been provided for the departments of botany and mineralogy, and in part for that of geology; for the transfer of these three great collections to the new Museum in the west of London will, in all probability, be carried out during the course of the present year. The large galleries which will thus become empty at the British Museum will at once be made use of for the exhibition of objects of archæological interest. In these the Museum is very rich, for they have been accumulating for many years; but want of space has compelled the authorities to store them away in imperfectly-lighted rooms in the basement. The dispersion of the India Museum has resulted in the whole of the zoological and geological portions of that Museum, together with the marvellously sculptured friezes from the Amravati Tope, and other ancient Indian remains, being made over by the Secretary of State and Council of India to the Trustees of the British Museum. Of these collections the sculpture is under arrangement for exhibition in the hall and on the staircase landings at Great Russell-street; while the zoological and other portions have been removed to the new Natural History Museum at South Kensington.

The comfort and convenience of readers and literary students has not been overlooked. A classed catalogue of printed books has been projected, by means of which the books are arranged in certain sections according to their subjects, and the titles of the works are printed in a quarto catalogue issued monthly, in order to allow of early reference to the newest English and foreign literature. The advantage expected from this employment of printing is not confined to the reduction of the excessive growth of the catalogue; but the titles of the books will be available much more expeditiously, and they will be more convenient for use. When put into circulation by means of sale, they will be also available for bibliographical purposes. Sixty-two additional seats have been added to the accommodation in the reading-room, and a carefully selected library of bibliographies has been arranged in a series of separate cases in conspicuous positions.

In continuation of the publication of catalogues and descriptions of the contents of the Museum, seventeen works have been issued, among which we may draw especial attention to the facsimiles of the ancient charters, the reproduction of the "Codex Alexandrinus," a Biblical manuscript of venerable antiquity and of the greatest possible value; Dr. Willshire's "Catalogue of Early Prints," and the "Guide to the Egyptian Rooms," by Dr. Birch. The department of printed books, under charge of Mr. G. Bullen, F.S.A., has received upwards of 77,000 volumes, or parts of volumes, besides music and newspapers. Among this immense store of literary treasures, attention is drawn in the "Return" to a magnificent copy on vellum of the "Decretals" of Pope Boniface VIII., "Liber Sextus Decretalium," printed at Metz by Fust and Schœffer in 1465; a very rare edition of the works of Josephus, printed at Lyons in 1566, with beautiful illustrations; and a hitherto unknown edition of "La Somme des Vices et des Vertus" of Lorens, a Dominican friar, who was confessor to Philippe le Hardi. The sale of Dr. Laing's magnificent library last December contributed a number of books of rarity and interest, chiefly printed in, or relating to, Scotland. Perhaps the most important acquisition of the year is a copy, unfortunately imperfect, of Tyndale's New Testament, printed at Antwerp during his imprisonment, in 1535, and distinguished by the curious spelling of certain common words, the peculiarity of which has given rise to the belief that they are provincialisms of Gloucestershire, intentionally so written by Tyndale himself for the benefit of the illiterate "boy that driveth the plough." In addition to these works, about a hundred "fifteeners" have found their way to the library shelves, thus adding still further to the strength of the Museum in the class of "Incunabula."

The department of maps and plans has not increased materially, but it has obtained an important plan of Paris, by Verniquet, in seventy-two sheets, the result of thirty years' labour, and finished in 1791. This shows the state of the city before the destruction of a great number of churches, convents, and other notable buildings. Leonardo Bufalini's tenth-century plan of Rome, found in the Convent of the Madonna degli Angioli, in Cuneo, has been reproduced by the Italian Ministry of Public Instruction, and a copy of it is now in this department. The manuscripts,—always a department of venerable interest,—promise a catalogue of Romances, and another of Seals. Here we observe the acquisitions have been very important, including, as they do, a beautifully-written papyrus of the first century B.C., containing the "Orations of Hyperides for Lycophron and Euxenippus"; the Bankes' "Iliad" on papyrus, of the second century; Pope Gregory's "Commentary on Job," of the eighth century, in Merovingian handwriting; and a copy of Dante's "Divina Comedia," on paper dated 1379, from the library of the late Principal Librarian, Sir Anthony Panizzi. Many great collections of historical and State papers have also been added. Of Oriental manuscripts, sixty-three volumes from the library of a Jaina priest, of Ahmedabad, in Gujrat, form the largest store of writings of that sect yet brought to Europe. Dr. D. Wright has contributed a set of Buddhistic works from Nepaul; and Mr. Shapira, of Jerusalem, some fine Hebrew Biblical and Massoretic texts from Yemen.

In the section devoted to Oriental antiquities, considerable arrangement and display of the Assyrian and Egyptian objects has been made. Constant excavations of Egyptian sites, such as Thebes, Sakhkharah, Gizeh, the Fyoum, and Memphis, as well as the desire of travellers to bring away souvenirs of travel, result in a well-sustained influx of small and portable antiquities from Egypt. From Palmyra a set of terra-cotta tesseræ, stamped with representations of deities and other personages, has been obtained; among them, one with the name and

titles of the Ethiopian monarch Tirhaka, about B.C. 690. Ancient Assyria, although as yet not so thoroughly explored as Egypt, contributes, among a vast number of relics, a terra-cotta cylinder of Sennacherib, with an account of that king's expedition against Hezekiah, which may be dated 701 B.C.; a fragment of one of the "Creation" tablets which helps to complete the broken tablets already in the Museum, which produced so much sensation at the time of its decipherment by the late Mr. George Smith; and a fragment of an unbaked clay tablet recording the annals of Nabonidus, with the contemporary history of Persia, and a notice of the triumph of Cyrus over Astyages of Ecbatana, wherein is mentioned the march of Cyrus into Babylonia, the capture of Babylonia, and the flight and death of Nabonidus.

Greek antiquities, under Mr. C. T. Newton, C.B., have made a forward step; the sculptures in the Archaic Room are in course of re-arrangement, and some fine specimens of this important class of ancient art added to the collections. Among them are a fragment of the frieze of the Mausoleum, liberally given by the Sultan of Turkey to rejoin its companions in the Museum; some fine goldsmith's work and gems, and some figures, probably representing archaic deities worshipped in Bœotia, from Tanagra. Classic heads comprise:—A marble head of the tragedian Euripides, in admirable condition, the nose intact. Portraits of this poet are of excessive rarity. A head of the youthful Bacchus, remarkable for the beauty of the features and general charm of the expression. In this type the sculptor has blended the beauty of both sexes in accordance with the androgynous conception of Bacchus in later Greek art. Traces of red colour remain in the hair, which is encircled with an ivy wreath. A mutilated head of Apollo, found in the baths of Caracalla. A male beardless head, possibly of Perseus. A head of Alexander the Great, bound with the diadem, the neck bent on one side,—a portrait differing entirely in conception from the one already in the Museum, and executed with far greater refinement, probably a copy of some celebrated bronze of the time of Lysippus. There are also heads of Sappho, Tiberius, Trajan, Marcus Aurelius, and others resembling those of Cleopatra, Lucilla, and the Empress Sabina.

In the department of British and Mediæval antiquities several alterations and improvements have been carried out. A new room on the left hand of the great staircase has received the Meyrick collection of armour and weapons, a selection of Oriental arms from the Christy collection, the Henderson collection of miscellaneous objects, and a collection of Japanese arms given by Mr. Franks, the keeper of this department. During the period under notice, the Museum has received the most important addition to British antiquities that has been obtained since its foundation by the presentation of a collection by the Rev. Canon Greenwell, resulting from researches undertaken by him during the last twenty years in the barrows of Britain, and described in his work entitled "British Barrows," Oxford, 1877. The excavations were carried out with great care and considerable expense, and comprised no less than 234 barrows, of which 171 were in Yorkshire, 2 in Cumberland, 20 in Westmoreland, 31 in Northumberland, 1 in Durham, and 9 in Gloucestershire. In these a vast number of objects have been found, including every variety of British funereal vessels, flakes, knives, scrapers, arrowheads, flint implements, stone axes, jet and amber beads, and bronze earrings. Among the Anglo-Saxon acquisitions may be mentioned a collection of personal ornaments and weapons, consisting of three gold pendants, an amethyst necklace, and a fine circular brooch, set with garnets, excavated by the late Lord Londesborough in the Anglo-Saxon cemeteries at Breach-down and Wingham, in Kent. An ivory box of the sixth century, carved with the acts of St. Menas of Alexandria; a large quantity of glass objects brought from Egypt by the Rev. Greville Chester; one of these being a remarkable Arab goblet of the thirteenth century, with fishes in gold, are among the miscellaneous objects added to this department. Some important hoards of coins have been acquired by the department of coins and medals, whose keeper, Mr. Poole, promises a catalogue of the Roman Consular Coins, and a guide to the English and Italian medals exhibited in the King's Library.

Professor Owen's report of the Natural History departments clearly indicates the urgent necessity for removal, which is on the eve of being carried out, with the object of rendering the vast collections more available to the student, and preserving the specimens of a more delicate nature, which are found to deteriorate from being kept in localities more or less unsuited to their condition. Among the acquisitions are specimens of wild sheep, the probable originals of primitive breeds of the domestic races; dwarf antelopes from the Somali country and Damaraland; rich ornithological donations by Mr. Godman and Mr. Salvin; a cabinet containing 24,625 exotic butterflies, bequeathed by Mr. W. C. Hewitson; and the Wollaston collection of Lepidoptera, from St. Helena, considered important, as the accurate knowledge of the fauna and flora of so isolated a locality as this island at a given period will enable future investigators to determine exactly the changes taking place in oceanic islands, with regard to the composition and specific characters of the indigenous and imported animals and plants. Professor Owen has reviewed the large collection of bones of extinct wingless birds from New Zealand, a branch of the subject in which he is surpassed by no one; and Mr. Nevil Story Maskelyne, who has just recently abandoned the classic shades of the British Museum for the fiercer arena of a political career as Member of Parliament for Cricklade, has brought up the the number of aërolites to 330 by acquisitions from Hungary, India, Russia, Chili, Bolivia, and Brazil. The attractive department of Botany, at present only shown to the public in a very inadequate form, has acquired by bequest the extensive herbarium of the late Mr. J. Miers, F.R.S., the distinguished botanist, together with a large series of original drawings, made by his father from living plants in South America and from dissections of plants in later years. This acquisition has greatly stimulated the useful series of drawings and engravings of plants which is so important a help to the comprehensive study of botany. The system of disposing of duplicate objects, which has found favour of late years with the authorities of the British Museum, has been carried out with the natural history collections by setting aside all specimens which are found to be duplicates, either for distribution among other natural history museums in the United Kingdom, or for purposes of exchange. The number of these is, however, very small, for the acquisition of superfluous specimens has always been avoided, and the specimens eliminated under these conditions are chiefly such as had to be replaced by others in a better state of preservation. Thus also in the department of Prints and Drawings a selection of duplicate prints has been made and disposed of by public auction, in order to raise funds for the purchase of the Crace Collection of London Topography. An immense number of prints, drawings, and photographs have been added to this department, including examples from the various schools of art, fine proofs by modern engravers, etchings, and lithographs. An extremely rare portrait of Queen Elizabeth, engraved by Renold Elstracke, is included among the acquisitions to illustrate the English school. Preparations are in hand for the printed catalogue of the numerous and valuable contents of this most interesting subdivision of our national Museum.

We may look forward to great and rapid changes at the British Museum. We shall all miss the familiar galleries of birds and mammalia, the room devoted to British natural history, the fishes, reptiles and invertebrates, the palæontological and mineralogical corridors; but they will rise again before us in enhanced splendour at South Kensington, under conditions for developing that artistic and natural method of displaying them which has of late been more carefully worked out by the Museum officers; and perhaps a time will come when the stiff and formal way of setting birds and animals on perches or boards, like toys in a Noah's ark, will be finally abandoned in favour of grouping and combining kindred specimens. The galleries thus vacated by typical Nature will be taken possession of by ancient Art, capable, under the experienced hands of Dr. Birch, Mr. Newton, and Mr. Franks, of being made quite as attractive to the casual visitor, and quite as instructive to those who seek to blend solid information of the mind with mere inspection of the objects, when they perform their devotions at the shrine of the Muses in Bloomsbury.

THE LAWS RELATING TO BUILDINGS IN FRANCE.*

THERE can be no question that this collection of the building laws of France is a remarkable work. Ultimately it will consist of five volumes, but at present four only are published, and when completed it will be one of the most exhaustive collections of the law upon a single subject which has ever been published. Seventeen years ago the "Société Centrale des Architectes," which was founded in 1840, published the first edition of the "Manuel des Lois du Bâtiment": it was found so useful that another edition of this comparatively modest work was needed, and accordingly we have the present most exhaustive book. It has been composed partly by the agency of a commission consisting of fourteen architects, and partly by the discussions and debates upon various parts of it which the council and the general assembly of the Central Society have devoted to it. It was also submitted for consideration to what is termed the "conseil judiciaire" of the Society,—or, as it may be termed the legal committee, which consists of nine lawyers, who settled the points of law which necessarily arose in connexion with such a work. Not, of course, that they could, if a question of law were undecided, settle it in a judicial sense; but they could point out, for example, the decisions which were applicable, and advise when legal questions had to be decided. Finally, a sub-commission, consisting of five members of the original commission, arranged the materials, and, so to say, put the subject matter into form.

Of that form it will no doubt be of interest to speak, because without doing so it is not easy to understand the comprehensive character of this "Manuel des Lois," a manual in the sense that it is meant to be used constantly in practice though anything but a manual as we in England are accustomed to apply this word. First of all, then, we have an historical essay on the laws of buildings; then, for we defer any criticisms on the actual material or form to a later part of this paper, come extracts from the Code Civil, with notes of judgments and decrees of the Cour de Cassation, and from the old provincial customs of France, illustrated in places by drawings. Next we have a similar series of extracts set in the same way, from the Code de Procédure Civile. This concludes the first volume of 428 pages. Next we come to the second volume, in fact and substance, though it is strictly the second part of the first volume, which consists wholly of judgments and decrees of the Cour de Cassation and of the Conseil d'État, and is termed "Jurisprudence du Bâtiment," arranged in the order of the two codes. In other words, we have a collection of the "French Law Reports" on matters connected with building, the only work which at all resembles it in England being the "Digest of Building Cases," by Mr. E. S. Roscoe, barrister-at-law, which, however, as our readers are aware, is not a collection in any way of an official character, however useful it may be to the profession of architects. We now come to our third volume, or, as it is called, the first part of the second volume, a bulky tome of more than 500 pages. In this, arranged in chronological order, will be found old edicts and ordinances, decrees of the King's Council or of Parliament, ministerial decrees and circulars, and supplementary laws concerning buildings. This to the reader of to-day may not be a particularly interesting volume, but it will be one which is of considerable historical value, and contains within its pages a mass of material which otherwise might possibly have been lost, and which is of value to many others than persons who are professionally interested in buildings, for local Government and many other subjects receive from it interesting illustrations. The fourth volume is filled with the same material, whilst the final part will apparently consist of supplementary miscellaneous matter, index, &c.

It will be obvious from this outline of the contents of these volumes how important a publication this is which the Central Society of French Architects have issued, and there can be no doubt, we should think, that it will be, as much appreciated by French architects, builders, and lawyers, as its compilers, clearly and with justice, considering the success of the first edition, expect. But we confess that we think it is in some respects too voluminous. For example, when the historical essay begins with

* "Manuel des Lois du Bâtiment," 2me édition, 4 vols. Paris: Libraire Général de l'Architecture. Ducher et Cie. 1880.

a dissertation on the origin of property, and we have it pointed out how the idea of property is inherent in the nature of man, and we get references to the Book of Genesis, and the death of Sarah, the scope of the work does seem rather too wide. Again, a great deal of the Code Civil, which is here extracted, is connected with elementary propositions of law which serve to increase the bulk of the book, and are, though applicable to points arising in regard to building, yet too much, in our opinion, a part of the general law to be inserted in a work which deals with a single and limited subject of a technical character. For example, article 516 of the Code Civil, is as follows: "All property consists of movable or immovable things," a proposition which one would expect to find cited in a book for law students, rather than in a technical and professional work of this kind.

The arrangement into parts without notice of the volumes seems to us a mistake; that is to say, while there may be as many parts as you please, one volume should mean, for the purpose of practical convenience and reference, one volume in fact, and not two or three. It will require, of course, a larger knowledge than we can pretend to possess of French local government at the present day, and of the municipal regulations of the French towns, to estimate fairly the value of many of the rules and decisions which we find in this book. We have pointed out the general value of this collection, but from time to time we meet with extracts which appear to have very little to do with buildings, to be rather of a trivial character, and to be questions of police, strictly so called. Thus, extract 32 of the ancient usages and regulations is an ordinance of the police concerning what should be observed on the subject of writings placed at the corners of the streets of Paris, by which persons are forbidden to deface written directions placed at the corners of the streets under various pains and penalties. The date of this police regulation is 1729. There are, to leave criticism, various points connected with architects' responsibility and other kindred matters which are of considerable interest, to which we may, perhaps, take an opportunity of referring on other occasions, under their proper heads.

As regards the actual publication of the work itself, it is certainly evidence of great activity, and of a strong desire on the part of the Central Society to be useful to the whole profession, and to all who have to do with buildings. Nor can there be any doubt that there is room for energy in this respect on the part of the Institute in this country. A cheap and well-explained edition of the Metropolitan Building Acts; a collection of the local Acts and regulations which touch on the same matters in provincial towns as the Metropolitan Building Acts in London; a carefully-compiled collection of reports of the cases which come from time to time before the law courts, and which, from their technical character, do not often find their way into the authorised legal reports, and when they do are not very accessible, are all subjects which suggest themselves. An ordinary London householder really knows nothing of the provisions of the Metropolitan Building Acts, though both as regards domestic and business premises they are often of importance to him. Again, we venture to think that a table of the awards made in many arbitrations for the compulsory taking of lands in London would often be of much practical service. Besides being, therefore, of practical value to those for whom it is intended in France, this Manuel des Lois du Bâtiment is, as regards English building law, productive of many suggestions and comparisons.

ROCHESTER CATHEDRAL.

THE nave of Rochester Cathedral has just been fitted with stalls for the chapter choir for use in the services held therein. They are from the designs of Mr. John P. Seddon, architect, and are a gift to the cathedral from the Rev. Arthur Cazenove, vicar of St. Mark's Church, Reigate, and honorary canon of the cathedral, in memory of his late father, Mr. Philip Cazenove.

They have been executed in pitch-pine at a cost of about 300*l.* by Messrs. Belham, builders.

A stall for the bishop of the diocese, of a corresponding design by the same architect, will also shortly be added to the above by the Dean and Chapter of Rochester.

CLUMBER HOUSE, WORKSOP, NOTTS.

JOHN HOLLES, fourth Earl of Clare, married about 1691 Margaret, the daughter of William Cavendish, who was made first Duke of Newcastle in 1864. From this marriage the present family of the Duke of Newcastle is descended. This John Holles was made Ranger of Sherwood, and in 1707 received royal licence to enclose a park at Clumber of 3,000 acres "for the Queen's use" and "his own land of inheritance." He died in 1711, and bequeathed his estates to Baron Pelham, of Laughton, in Sussex, who took the name of Holles, and was made the second Duke of Newcastle in 1756. He was Secretary of State for thirty years under George I. and II. He died in 1768, and all his numerous titles became extinct, except those of Duke of Newcastle-under-Lyne and Baron Pelham, of Stanmere, which went (by the marriage of his niece) to the ninth Earl of Lincoln, who took the name of Pelham, and died 1794. His great-grandson, the fifth Duke of Newcastle and Earl of Lincoln, was born in 1811, and married Susan, daughter of the tenth Duke of Hamilton. He died in 1864, and was succeeded by the late Duke, who died 1879, and is succeeded by the present one, the seventh Duke, Henry Pelham-Pelham Archibald Douglas, born September 22nd, 1864.

The present house at Clumber was built, in the form and to the extent which has long been familiar to the public, about 1770, and is beautifully placed on the margin of an artificial lake of 87 acres of water obtained by damming the river which traverses the park, and which, at the lower end of the lake resumes its course, falling over an embankment wall of about 12 ft. in height. A previous house, however, existed here, of a less important character, and was incorporated with the new work, which completely enclosed it. The scale of its apartments being smaller, and the height of its stories being much lower than the new work added in 1770, it formed a somewhat incongruous whole, intricate passages and numerous flights of stairs being needed in all directions to connect the more stately rooms with the old smaller ones.

On the 26th of March, 1879, shortly after the late Duke's death, a fire broke out in one of the rooms of the older central house, nearly all of which was consumed; but the substantial walls of the later edifice were happily sufficient to prevent its ravages extending to the entire structure, as seemed but too probable. The suite of rooms erected in 1770, therefore, still remain, though somewhat injured by smoke and water. The fire, which broke out about three in the morning, is thought to have originated from workmen who were engaged in a bath-room, next to the staircase hall, where it commenced. The weather was very severe, and snow lay deep on the ground; but great exertions were made by the housekeeper and the few servants within call, who commenced removing such articles of value as were accessible, which were placed in the garden. In about an hour and a half help arrived with the fire-engines from Welbeck House, Thoresby House, Worksop, Retford, and Osberton, and in three or four hours the progress of the fire was arrested, and its ravages were confined to the centre part of the building, which was quite burnt out. A large number of specimens of very valuable china and some fine pictures were lost, among the latter a fine Snyders, one of a series of four by this artist which had long been heirlooms in the family. The loss in this way alone amounted to over 10,000*l.*

Very extensive alterations and reconstructions at Clumber were contemplated by the father of the late Duke, partly with the intention of bringing the whole into more convenient internal arrangement, and partly with the object of giving a more suitable appearance externally and internally to one of the most important residences in England. The late Sir Charles Barry was accordingly consulted in the year 1857, and proposed a magnificent design. It was found, however, that to carry this into effect would not only entirely change the familiar character of the house by casing it with new building, but would also involve so large a cost that the consideration of it was deferred and never resumed. The recent fire, however, made the reconsideration of the matter a necessity, and under these circumstances the trustees of the estate have asked the advice of Mr. Charles Barry, who, in the lifetime of his father and as his assistant for many years, had necessarily become familiar with the buildings and estate.

Mr. Barry, having made a careful inspection of the remainder of the house, advised that, as the fire had been almost entirely confined to the centre of the pile of buildings, which, as above said, consisted of the older and smaller house,—while the range of state-rooms, forming the external shell of the building, had happily been preserved,—it would be well to remove the whole of the central portion, and in its place form an imposing central hall, 70 ft. by 45 ft., and the whole height of the building, whereby all the hitherto disconnected state-rooms, on the ground-floor would be brought into easy and dignified communication; while on the first floor a gallery around this new central hall would give access on a uniform level to the several bedrooms (many of them of great interest and importance) on the upper floor. Mr. Barry further proposed that, whereas the chief entrance had hitherto been in a recessed central part of the west front, and was itself insignificant in character, while the front so broken had no such effect as there should be to so important a house, an entirely new west front should be added, designed in complete harmony with the south and east fronts, which were the work of 1770, which had not been affected by the fire; that the central part of the new west front should be made higher than the rest of the building, so as to afford an important and picturesque effect when seen from a distance; and that a suitable entrance-court and gates should be made in connexion with such west front.

By this means none of the important work of 1770 would be hidden, expense would be spared, and the "Clumber," so familiar to the family and others for 100 years would still remain in all its important features. The plans and designs of Mr. Barry have received the approval of the trustees and of Mrs. Hope, of the Deepdene, Surrey, the grandmother and guardian of the present Duke, as also of the Duke himself; but we are not aware whether the whole of them will be at once carried out, or a portion only now; while their full realisation may perhaps be deferred until the duke attains his majority, about five years hence, and enters into possession of the magnificent property of his ancestors. The light parts in the plans show the new work.

The works have, however, been commenced, under the superintendence of Mr. Barry, by the well-known contractors, Messrs. Lucas Brothers, of London, and will be vigorously prosecuted.

If Mr. Barry's designs are carried out, "Clumber" will again take high rank among the noble residences for which England is remarkable.*

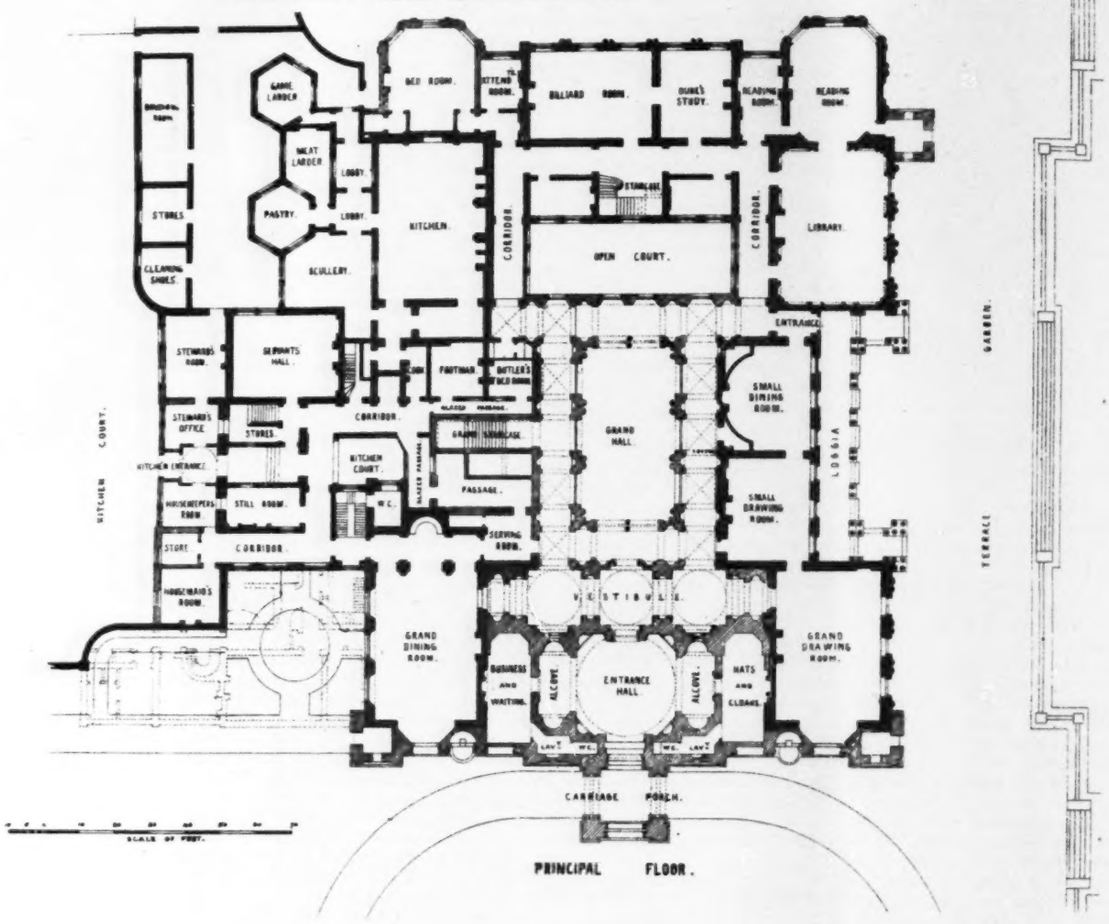
BRICK ARCHITECTURE, GERMANY: TOWER AT LUBECK.

IN the view of a portion of the castle of Trau'snichts, at Landshut, in Bavaria, which we published some time back,† we illustrated a very plain and simple treatment of brickwork. The drawing which we reproduce by lithography this week shows a far more elaborate structure of the same material. Here we have mouldings, tracery, cusping, foliage, and armorial bearings, all executed in brick. There is a very curious fact connected with this elaborate brick architecture of North Germany: it is that, unlike other Gothic styles, it seems to have risen out of nothing; that is to say, we cannot trace its development from any other style, but it seems to have sprung suddenly into existence thoroughly developed and perfected. The most perfect examples are to be seen at Lubeck, Danzig, Stendal, Brandenburg, and all over the duchy of Mecklenburg. These brick buildings are treated as to design exactly like stone. There is no material difference between the brick tracery which we find in this part of the world and the stone tracery of southern and central Germany; and, in fact, the brick is used exactly as we should use stone. Even church furniture is frequently executed in this material. At Stendal, for instance, there is a rood-screen of brick. Sometimes the moulding and tracery are cut out of red brick, and at others they are cast or moulded in brick of a green or brown colour, highly vitrified. There can, we think, be little doubt that this kind of construction was not a matter of choice with the Mediæval builders of this part of Germany, but simply a matter of necessity. The fact is, that no stone is to be found

* A large drawing of the new building will be found in the Royal Academy Exhibition, with a view of the old house as it appeared after the fire.

† See vol. xxxvii., p. 1236.

CLUMBER. PROPOSED RESTORATIONS AND ADDITIONS.



Whiteman & Race *Photo Litho* 236 High Holborn

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CLUMBER HOUSE, WORKSOP, NOTTS, AS PROPOSED TO BE RECONSTRUCTED.—MR. CHARLES BARRY, F.S.A., ARCHITECT.

PROPOSED MONUMENT TO KING VICTOR EMMANUEL AT VERCELLI.—SIG. ERCOLE ROSA, SCULPTOR.

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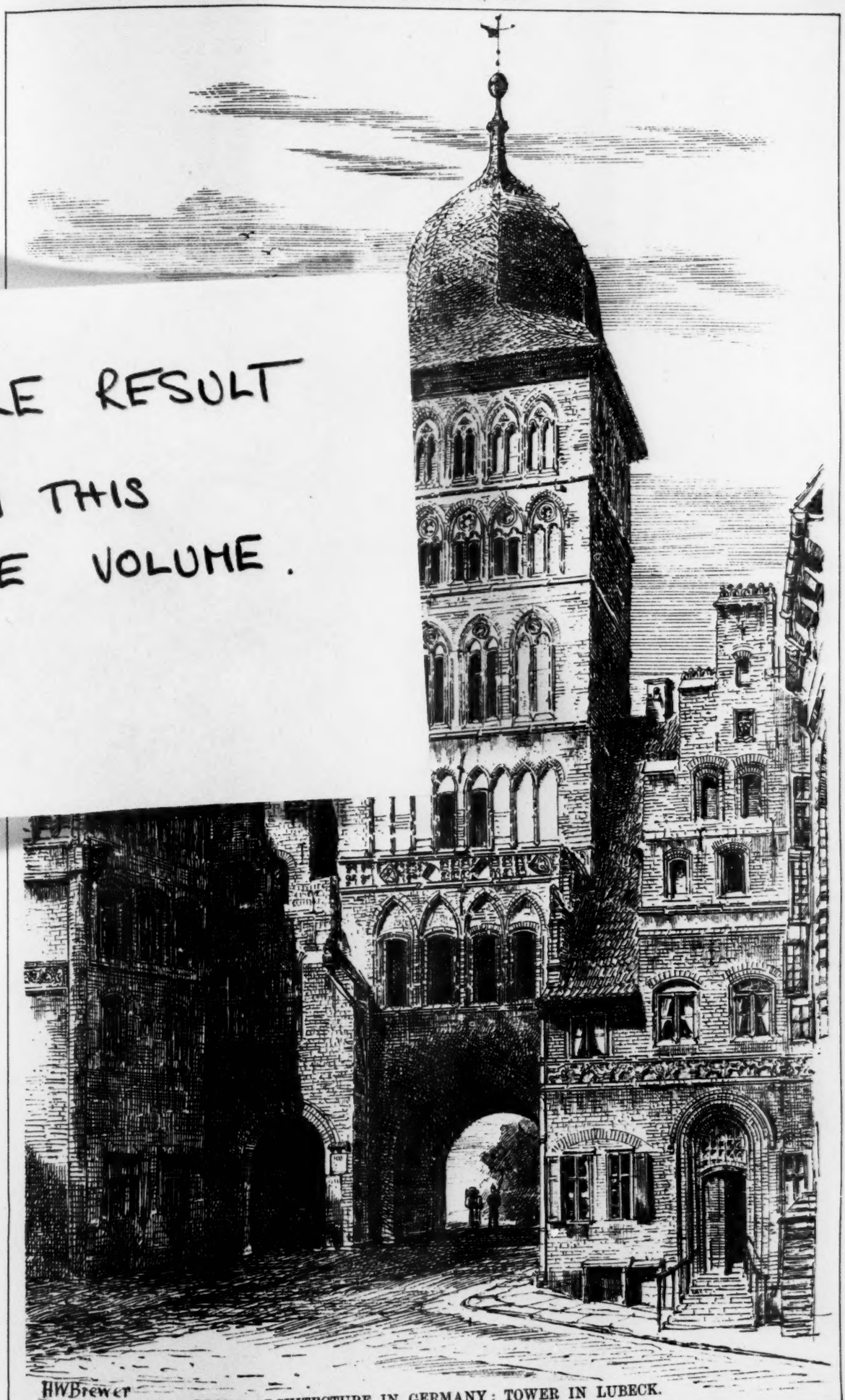


BRICK ARCHITECTURE IN GERMANY: TOWER IN LUBECK.

Whiteman & Bass *Photo-Litho* 236 High Holborn

Wyman & Sons, Printers.

in this part of the country, but excellent brick is to be obtained, and they appear to have tried to produce, in brick, designs which they found executed in stone in other countries. It should be remembered that before the fourteenth century large districts in the north of Germany were in quite an uncivilised state; in fact, the people were still heathens in parts of Mecklenburg. So that when they became Christians they found themselves four or five centuries behind their neighbours, and, instead of inventing an architecture for themselves, they copied the works of other countries.

The tower which we illustrate is a pleasing example of this type of architecture. It possesses one or two peculiarities, the most remarkable of which is the use of the oval-headed arch alternating with the pointed.

MONUMENT TO VICTOR EMMANUEL AT VERCELLI.

IN few instances has competition been keener than for the monuments erected in honour of the first King of Italy. Thus, for the monument at Milan there were sent in sixty-seven designs; for that at Turin fifty-four; for that at Vercelli forty-nine; besides twenty designs for that at Verona. At Turin and Vercelli, where the choice was left to the discretion of the competing sculptors, the pedestrian form, placed on a column, was finally selected.

The exhibition of the designs for the Vercelli Monument, held in the Convent of San Andrea, displayed an abundance of artistic feeling and good taste; the design of Ercole Rosa (the subject of our illustration) obtaining the first premium.

The monument, which is nearly 60 ft. high, is imposing in conception, and the execution is of corresponding goodness. At the base of the column are placed female figures, representing the three most eventful periods of modern Italian history,—1849, 1859, and 1870. The first, manacled, is expressive of deep sorrow; the second (which is hidden by the column in our illustration) is a warlike figure; the third is elated by the enthusiasm of victory. The eagles supporting the capital have too much the appearance of being mere labels, but the figure of the king conveys a majestic impression, and his eye, raised towards heaven, seems to be in quest of the star which led him from Novara to Rome. Altogether, the monument of Vercelli is better in design than that at Turin, although the latter will cost, when completed, one million lire (40,000*l.*).

A sum of 3,000 lire was set apart for a second premium. This amount has been divided between three equally meritorious competitors, Signori Bianchi Santino, of Turin; and Adolfo Laurenti and Giacomo Ginotti, of Rome.

PROGRESS IN SUNDERLAND.

FEW towns in the North of England have shown more marked progress during recent years than the port of Sunderland. Though its development has gone on through such gradual stages as to escape the notice of any but the local observer, the result is that it is no longer contemptuously described as a "creek of Newcastle-on-Tyne," but possesses independent aims and interests of the highest importance. A glance at the local history of the past twelve months will be sufficient to convince the most sceptical of these facts. During this period, keeping pace with the vast increase in the population, the old Monkwearmouth Railway Depôt has been reduced to the level of a side station, a fine bridge has been thrown over the Wear, and the line, by means of a tunnel, communicates with the New Central Station in High-street West.

Take, again, the important project which the Corporation has brought to a successful completion during the past twelve months, viz., the handsome Museum and Free Library buildings and conservatory, at the junction of the Borough-road and Fawcett-street, and in close proximity to that park which Sunderland is so fortunate as to have in the very heart of the town. The library is well furnished with books, and the museum with fossils and specimens of natural history; while, to crown all, there has recently been opened in the art-gallery a loan collection of paintings, valued at 30,000*l.* This exhibition has been visited, since its opening by the Mayor a few weeks ago, by thousands of persons, free of charge. The promoters are sanguine of gradually collecting the materials for a permanent art-gallery for the town, having already been presented with a number of valuable pictures, and thus removing the stigma which has hitherto, justly or unjustly, attached to Sunderland of remaining behind in matters pertaining to art. Further, the Corporation have just opened, by a public demonstration, a new park at Roker, a popular seaside resort in the immediate neighbourhood. In providing the site for this they have been generously aided by a grant of land from the Ecclesiastical Commissioners; but, notwithstanding this, the town is expending on the laying-out of the grounds a sum of over 1,100*l.* A large area in the west end of the town, near the Infirmary, known as the Burn Fields, is also being laid out as ornamental public pleasure-grounds, at considerable cost, and will shortly be ready for opening.

Another important public improvement which has been in progress during the past year or eighteen months, is the laying down of the tramways by the Sunderland Tramways Company, of course with the sanction of, and by arrangement with the Corporation. Only a few days ago General Hutchinson, on behalf of the Board of Trade, inspected and approved the last section of the line, laid down from Villiers-street along High-street West, to the workhouse, and along Borough-road, while the lines to Roker and the Docks have been worked now for some months. Sanction has been already obtained for working the lines to Roker and Southwick (when the latter is laid) by steam or other mechanical power.

Writing of the docks, one is reminded of the improvements being carried out by the River Wear Commissioners, with a view to facilitate the trade of the port, and so enhance the general prosperity of the community. These include new lock works at the south outlet of the docks, extensive and costly dredging operations in the bed of the river, and the proposed improvement of the quay-line. A lengthy report from Sir John Coode, consulting engineer to the commissioners, was presented at the last monthly meeting of that body.

As connected with the subjects of river improvements, it may be mentioned that the Corporation has under consideration a scheme for constructing a subway under the river, so as to establish a better mode of communication between the north and south side than is now afforded by the ferry-boats. The Town Council has already advanced so far as to approve the expenditure of a large sum of money on the preparation of preliminary plans and specifications, and when these are ready the discussion on the subject will be revived.

Concurrently with the public improvements above indicated, the street architecture of the town has lately shown an advance in style and appearance, notably in the neighbourhood of the New Central Railway Station. For instance, the new warehouse of Messrs. Pearman & Corder.

As indicating the estimation in which at least one local firm of contractors is held, it may be added that Messrs. John Hirst & Sons, of Sunderland, have been entrusted by the North-Eastern Railway Company with the contract to build the proposed new warehouses at Tyne Dock, the amount of the contract being about 45,000*l.* The buildings will be similar to those now in course of erection by the company at West Hartlepool, viz., built of brick, five stories in height, the floors being supported on iron columns.

THE ARCHITECTURAL ASSOCIATION FINISHING ITS SESSION.

THE annual dinner of the Architectural Association was held last Tuesday evening at the Holborn Restaurant and was attended by about eighty members and friends. Mr. John Whichcord, president of the R.I.B.A., attended as a visitor, also Professor Hayter Lewis, Mr. Arthur Cates, Mr. Henry Currey, Mr. F. C. Penrose, and others. Among the past-presidents of the Association were Mr. T. Roger Smith, Mr. W. White, Mr. T. H. Watson, Mr. R. W. Edis, Mr. J. Douglass, Mathews, Mr. R. Phené Spiers, Mr. J. S. Quilter, and Mr. H. L. Florence. Proper sentiments and songs filled up a long evening, which every one found too short. The last official duty falling upon the president for 1879-80 was to act as chairman at this dinner, and Mr. S. Flint Clarkson, as might have been expected, rounded off his very successful presidency with a happy ending.

THE ART EDUCATION OF THE PEOPLE.

BY W. PETTIT GRIFFITH, F.S.A.

TACITUS gives an excellent account of the ancient way of educating children. The old Romans were strict and severe; their great object was to preserve the mind in its primitive innocence and integrity, and not to corrupt it by ill-custom or ill-example, so that it might apply itself with the greatest willingness to liberal arts, and embrace them with all its powers and faculties.

In the rising ages of Rome, the training of youth was looked on as a sacred duty, and they thought themselves in the highest manner obliged to leave fit successors to the empire of the world. Thus the care and instruction of youth, among the old Romans, had been provided for by public laws; of course, the voluntary diligence of parents would have made all such regulations superfluous. But as it is impossible that parents, even presuming they are sufficiently educated for the purpose, who have to earn their daily living, could devote their time and attention to the subject, it devolves upon the state or the public to provide an education suitable for the people.

In the natural kingdom

"The bees have common cities of their own,
And common sons, beneath one law they live,
And with one common stock their traffic drive,
Each has a certain home, a sev'ral stall;
All is the state's, the state provides for all."
VIRGIL.

The dawnings of philosophy in olden times were glimmering and faint. A state purely military, which knew no other art but that of war, nor any other pleasure than that of victory. These first periods not only neglected this study, but were even taught to fly from it as only tending to render the manners more effeminate, and repress courage.

A natural gift of intelligence born in a youth can no more be suppressed than a spring of water in the earth; you may endeavour to stop the latter by brick walls built with cement, but it will be in vain; the spring will find a vent. So with the intellect, the youth may be checked,—his reading and studies apparently stopped,—and called idleness, unprofitable, and waste of time, by his parents; yet, after midnight, with a secreted candle in a bedroom or even in a stable-loft, he will follow his gifted bent of intellect. The natural genius in a youth must therefore be encouraged and guided, but never checked:—

"With different talents form'd we variously excel."

Nature does nothing in vain; everything has been appointed to a certain use and purpose, and determined to a settled course and sphere of action, from which, if it in the least deviates, it becomes unfit to answer those ends for which it was designed.

The most neglected faculty of all is that of observation:—

"The mind untaught
Is a dark waste, where fiends and tempests howl;
As Phœbus to the world, is science to the soul."
BEATTIE.

Nothing had been neglected in education so much as that invaluable faculty of using one's eyes and looking around one. To the sight we owe not only all the discoveries of philosophy, but all the divine imagery of poetry that transports the intelligent reader of Homer, Milton, and Virgil.

It is certain that reason, or the faculty of understanding, which we received at our birth, apprehends no natural object but what is true so far as it apprehends it clearly and distinctly, as the pleasures of imagination arose originally from sight.

There is an education of the body as well as of the mind: it is with the latter we have chiefly to do:—

"——— who can tell the triumphs of the mind,
By truth illumined, and by taste refined?"
ROGERS.

The grand point is to separate mind from matter, so far as the detection of, and retaining, first principles:—

"Lull'd in the countless chambers of the brain,
Our thoughts are link'd by many a hidden chain."
ROGERS.

Matter may be considered as a visible substance to be fashioned into life, ideal or real, for the ideal is but the perfected real:—

"To things immortal time can do no wrong,
And that which never is to die, for ever must be young."

To accustom ourselves to form right and true judgments, we must furnish our minds with self-evident and general propositions, such as are

usually termed maxims or axioms. All the sciences furnish certain axioms, which are peculiar to them, and which they claim as their right. These first principles are called maxims or axioms, because they are propositions, whose sense we no sooner understand than we are convinced of their certainty; for example, "neither art nor nature can make anything out of nothing."

Nature is always admitted to be the artist's first cause: hence the saying that "art is nature better understood." That there is nothing new under the sun, is often true. Pope, himself, when he wrote,—

"Be Homer's works your study and delight!
Read them by day, and meditate by night,"

must have borne in mind Horace's injunction,—

"Make the Greek authors your supreme delight,
Read them by day and study them by night."

It requires very great precaution not to confound the real opinions of ancient times with fictions which were produced in succeeding ages. The principal intent of early philosophy seems to have been the disengaging the soul,—

"That little world, the human mind,"—(ROGERS)

from too intimate a union with the body, and the elevating it by degrees, particularly by means of mathematical preparations, to the intuition of the reality of things,—things that subsist by themselves only. Empedocles asserted that we judge of truth not by our senses, but our reason, as the senses generally gave us false information. He made reason come from without, as a thing that was in some measure infused into man, and he gave it for its object intelligible things.

The history of the first ages of the world is so obscure, and that little of it which is conveyed down to us is so mixed with fables which contradict reason, that we cannot, if we follow the light of our understandings, admit one-half of the facts to be true which are related therein.

The ancient philosophers agree that the first matter had been from all eternity, and the only dispute amongst them was about the time when the regular disposition and order which we now see in the universe began. Some believed that the regularity and beauteous order which we so much admire in the world, were produced and formed by a first intelligent cause, which they made co-eternal with matter; others thought that chance and the fortuitous concourse of atoms threw things at first into the disposition that we see them in.

That the mathematical and beautiful order which pervades all celestial and terrestrial matter was created by a superior mind, and not by chance, is emphatically proclaimed by the Scriptures. It is lucidly set forth in Genesis i. 1, thus,—"In the beginning God created the heaven and the earth"; but the proof, which is self-evident, is portrayed in the second verse,—"and the earth was without form, and void." This at once conclusively proves that a superior or sublime intelligence was required to reduce all things to order; as,

"Nature to all things fix'd the limits fit."

"And who but wishes to invert the laws
Of order, sins against th' Eternal cause."—POPE.

Spontaneous and chance creations do not enter into the bounds of common sense. On this question no difference of opinion can exist as to

"Who laid foundations for the spacious earth?
Who on its surface did extend the line;
Its form determine, and its bulk confine?
Who fix'd the corner stone? what hand declare?
Hung it on nought, and fasten'd it in air?"
YOUNG.

And

"—— unperceived the heavens with stars were hung."
VIRGIL.

Art is not to be taught by miracles, as magical spells are contrary to the well-known laws of nature and the established principles of mechanics. In most instances, were the true nature of things well understood, we should not be so liable to wonder and astonishment, the effect of ignorance, as we too commonly are. Men would rather believe a thing that is told them for a truth than prove whether it be so or not by an examination or study. It is much more easy to follow the current of things. Thus most people suffer themselves to be carried by the stream, and are led into error from the examples of others.

Taste in art will never be understood until the subject has been more clearly placed before the public; and the more simple the language used in defining it, the sooner will the intellect grasp the subject. It requires an education to acquire taste; but when acquired

"confusion disappears,
And order charms the eye, and harmony the ears."

Under this condition there cannot be a difference of opinion. Take two vases, one well proportioned and decorated in accordance with the well-known laws of form and colour; the other vase, ill-proportioned and inharmoniously coloured. Now it is self-evident that no difference of opinion can occur, unless the judges are grossly ignorant, or at least one of them; because one opinion will be trained or educated, and the other not. But a difference of opinion, and rightly so, may exist, if two vases varying in form and colour, yet both well proportioned, decorated, and coloured, be considered; in this case, a difference of opinion or taste may arise, but each opinion, bear in mind, will be an educated one. For as

"A thing of beauty is a joy for ever,"

so is

An ugly thing a curse for ever.

The study of ornamentation may be reduced to the real and the ideal. The real is presented to the eye in the form of foliage, flowers, and fruit, and the feathered tribe, and all the varieties of the animal kingdom. The eye having been educated and made acquainted with these examples of form and colour, becomes prepared to conceive the ideal. The fanciful images that are sometimes seen in the fire, or are accidentally indicated upon a discoloured wall, or frosted glass, must exist in the mind,—

"that beauty which at *first I saw*
The soul is drawn, which through the eyes beholds,
The *image grows within*."—MICHELANGELO.

This at once solves the question of the term "conventional"; the well-known story of the competition between Alcamenes and Phidias will now the better be understood; because if the eye had not been instructed in the perfect figure, it could not realise the perfect figure by viewing the form.

There is a rule that, in all large statues, no part ought to be made fine; it is enough that it appears as if it were hammered out; because, besides it being needless to make it otherwise, what is rough appears best at a distance, as being more palpable to an educated imagination.

The education of the public is of grave importance, and the consideration of the subject must be separated into mind and matter. We have numerous professors, useful in their way in solving the composition of ocean, earth, and sky; they, however, cannot educate the soul or mind of the public on taste or those numerous vital points which enable a man to think or understand the principles set forth and elicited from Nature's works, which guide and permit the artist to become a creator. The people have to live, their daily wants supply, and this is as much as they can accomplish; they therefore have not the time to study and adapt the principles of Nature. A great revolution is demanded, and must take place, before any real educational benefit can be conferred on the public. The public at large has a claim over the fine arts of a country. They are common property, inasmuch as they involve the national taste and character; and no man has a right to pass himself and his own barbarous inventions as a national taste, and to hand down to posterity his own ignorance and disgrace, to be a satire and a libel on the knowledge and taste of his age.

Formerly credit was given to astrology: by degrees experimental philosophy has cured many of that distemper of the mind. There is a constellation among the stars, termed Libra, or the balance, which is no more like the balance than a windmill; this balance is the emblem of justice, and those who were born under that constellation were destined to be just and equitable. As the vulgar are still affected with whimsical and romantic notions, the battle of plain truth has still to be fought.

In former papers, attention was directed to the art of painting being originally sought to adorn the sacred edifices of the Christian faith, and of the vulgar and sensational paintings of after ages. Another illustration may be advanced in reference to basing the education of the public mind upon plain truth. In 1739, Lawrence Clarke edited a history of the Bible, with numerous engravings, which instead of advancing the subject, converts the work into a subject for ridicule. History should always be truthfully portrayed, and the fashion of the times never permitted to pervert it. Classical architecture being in vogue at the time when the above history of the Bible was published, the form of Solomon's temple is designed with Roman columns, pilasters, entablatures, pediments, &c.; and the new Jerusalem is likewise represented as a Classical city!

We can understand why sculptors prefer indicating the human figure by the Roman toga, or draperies, gracefully and naturally disposed, instead of fashionable adornments destroying the beautiful original form. The painters and engravers have, however, displayed great ignorance by introducing a style of architecture in their backgrounds, not even in existence at the time of the event or subject portrayed.

In the fine arts, as in all pursuits which aspire to moral dignity, truth is the criterion of beauty, and in these the objects of truth are two,—resemblance and consistency. The former respects the relation subsisting between the representation and its prototype,—the latter regards the agreement of the several parts of a composition with each other, and with the peculiar mode of imitation to which it belongs; in the first case, art is compared with nature; in the second, with itself.

Sculpture has been considered to be the art of expressing ideas, sentiments, and qualities by the tangible and selected imitation of living forms; and also as an important means of public education, since its creations perpetuate the presence of a superior beauty amongst men in visible and tangible forms which are indicative of mind. A comprehensive and critical knowledge of the works of nature is the only source of beauty and grandeur. Painting is a mechanical art, and that power which enables the artist to conceive his subject may be said to belong to general education.

The education of the people must be guided by the laws of nature, or reason, and not confusing the intellect by raising doubts and preventing the expansion of the mind. For instance, in reference to the origin of sculpture, we can omit the allusion to Adam as the first moving statue, or to Lot's wife as the first fixed and immovable one; and likewise the public intellect can never be quickened by urging that "the divine Protoplastes, taking some of that virgin elementary earth which himself had first created with his own hands, he framed the mould of the first man, and afterwards most miraculously inspired into him a living soul."*

Goldsmith says, instead of giving us fine, empty harangues upon a subject, instead of indulging each his particular and whimsical systems, it would be much better if the writers would treat their subject in a more scientific manner, repress all sallies of imagination, and give us the result of their observations with didactic simplicity.

It is much better to be an imitator of good things than an inventor of bad. If an artist desires to immortalise his works he must restrain his judgment, and adhere strictly to truth. It has been said that new-fangled and licentious productions proceed from a diseased and vehement thirst of creating, without end, new objects and new forms. And notwithstanding in the gratification of such passion nature becomes outraged, all true drawing set at defiance, and the laws of order subverted; yet, painful to reflect, the unthinking multitude are ever prone to regard spurious and distorted works, because they are unlike everything else, as the spotless and legitimate offspring of a sublime, intrinsic, and unparagoned genius; and Burke has observed that an inordinate thirst for variety, whenever it prevails, is sure to leave very little true taste.

Addison wisely remarks that it is a melancholy thing to consider that the art of printing, which might be the greatest blessing to mankind, should prove detrimental to us, and that it should be made use of to scatter prejudice and ignorance through a people, instead of conveying to them truth and knowledge.

There can hardly be imagined a more important, a more truly dignified office, than that of a teacher of the people through the means of the periodical press. His powers and opportunities are greater than those of any other class of teachers. He has an immense audience, and by constant repetition he is able to produce a certain and lasting effect. New ideas cannot be introduced by any sudden or singular effort,

* The Perfect Painter, 1730.

however powerful or well-directed; it is the dropping of the water on the stone, the line upon line, the precept upon precept, that brings about important changes.

Whoever will attempt, says a celebrated author, to gull the world, may be sure to find persons enough who may be easily gulled; and the most ridiculous fooleries will always meet with a welcome reception in some minds. And recently an experienced literary writer urges, "Let no one who has the slightest desire to live in peace and quietness be tempted, under any circumstances, to enter upon the chivalrous task of trying to correct a popular error."

The public, however, must not be disheartened; art must be reflected in a more simple and natural light. The dead languages are useful in their way; there is no necessity to cloak common sense with ambiguity.

> "A tale should be judicious, clear, succinct;
> The language plain, the incidents well link'd.
> Tell not us new what everybody knows,
> And, few or old, still hasten to a close."
>
> COWPER.

Of a contracted education we have numerous instances, which prove that we ought to place slight reliance upon the opinions of others upon subjects which stand in any degree out of the path in which they have been constantly accustomed to treat.

Whoever imagines that he may safely lay aside all the successful efforts of the mind as fashions out of date contracts his faculties within his own day, and can form no adequate conception of that ample inheritance of the intellectual powers bequeathed to us from age to age.

The public do not need to be amused with pious frauds to frighten them into a sense of their duty. Our forefathers looked upon nature with more reverence and horror before the world was enlightened by learning and philosophy. There was not a village in England that had not a ghost in it; the churchyards were all haunted; every common had fairies belonging to it; and there was scarce a shepherd who had not seen a spirit.

It is a matter for serious consideration whether the useful arts are not of greater importance to the public education than the study of the fine arts. The useful arts create and construct, and the fine arts refine and add beauty to them, by the means of decoration and ornamentation. It has been the fashion to repudiate the mechanical arts; but, upon reflection, the useful arts take precedence of the fine arts; and it is a question whether the latter are not, as at present taught, very often only an idle affair.

The mechanical art,—and all art is mechanical, more or less, and guided by the head, not the hand,—and the success attendant upon that work, is dependent upon the mind and hand duly directed to the performance of the work to be accomplished. When aided by a natural gift, success is more easily achieved.

A technical education is a movement in the right direction; it will enable the workman to execute more skilfully his work, without lessening the importance or usefulness of the better-educated or accomplished professor or director, as it would be unreasonable to expect that the workman could devote sufficient time to acquire a theoretical knowledge, which takes years to perfect.

In conclusion, correct art is nature perfected and extended. If the public are to receive an art-education, that education must accept nature as its root or guide. To promote this education, all gardens, museums, galleries of art, both public and private, should be open for inspection on Sundays,—of course, subject to certain restrictions,—and it will be found that, instead of inducing a neglect or forgetfulness of divine duties, it will be the means of increasing them, by imparting an insight and knowledge of the Creator's works, without which there is no religion worthy of the name.

Proposed New Conservative Club Buildings at Radcliffe.—The directors of the Radcliffe and District Conservative Club Company, having decided to proceed with their proposed new building, lately invited several architects to submit designs in competition. From the number submitted the directors have selected those sent in by Mr. William Dawes, of 2, Cooper-street, Manchester, and have instructed him to prepare the necessary drawings and obtain tenders for the work. The site for the new building is near the new railway station at Radcliffe.

CITY CHURCH AND CHURCHYARD PROTECTION SOCIETY.

THE first annual meeting of this Society was held in the Long Parlour of the Mansion House on Wednesday afternoon, the Earl of Devon (in the unavoidable absence of the Lord Mayor) in the chair.

The Chairman, in opening the proceedings, briefly stated the objects of the Society, which, he thought, were worthy of all support. Not that he would deny that there might be cases in which other important considerations,—such as those of health, or those of very urgent improvements for the public convenience,—might occasionally necessitate the removal of a City church or churchyard, but such cases would be very few; all such proposals should be carefully scrutinised, and it should be an invariable and inexorable condition of the removal of any City church or churchyard that the money arising from the conversion of the site to other purposes should be applied to the erection of a church or churches in other parts of the metropolis.

The Secretary (Mr. Henry Wright) read the annual report, which narrated the circumstances which led to the formation of the Society,—

"One by one, and with almost annual recurrence, the City churches were being improved away off the face of the earth in spite of public protest on both antiquarian and religious grounds. There was a lack of united action, and the death of one or two active and earnest City laymen opposed to these deconsecration schemes left the promoter's hands free. When, however, a church was scheduled in the line of deviation by a railway company merely to oblige some of the promoters, and that church having the advantage of a resident rector and active parochial organisation, it was felt by several City Churchmen that some definite action must be taken. Two or three church societies were asked to oppose the destruction and removal of so beautiful a fabric as the church of St. Mary-at-Hill, but, though generally disapproving of the destruction, it was felt to be hardly within the scope of their operations. At a meeting held one evening at St. Mary's Rectory, a letter was read from a Sheffield barrister, who, by the formation of a Churchyard Protection Society, had prevented the desecration of the ancient graveyard in that town, and it was decided at once to form a similar society for the city of London, to include in its protection both churches and churchyards. The widest basis was felt to be necessary to secure active and influential public support; not only were all schools of thought in the English Church asked to assist, but many more on purely æsthetic or antiquarian grounds."

After detailing other matters connected with the establishment of the Society, the report went on to say that,—

"By the Union of Benefices Act the City churchyards were preserved from being built over or used for secular purposes, but in some instances they have been left in a very neglected condition; and it is the work of the City Committee to visit and report upon them, and to induce the parochial authorities to keep them in a fit and proper order.

But above and beyond the work undertaken and the success achieved in the City of London, the aid of the Society has been invoked at Exeter, Birmingham, and at another place. In the former city the scheme for the destruction of five churches has been abandoned for the present, and a Church Protection Society is now being formed.

The City churches possess a history and a value peculiarly their own, and it has long been felt that opposition to their removal must in the first instance spring from the City itself, and that in spite of the number of societies already in existence, there was a necessity for the one which now commemorates its first year's work. During 1879 and 1880,—since the formation of the Society,—no other scheme of removal has been set on foot, nor has a single church been destroyed."

In the absence of Mr. G. Gilbert Scott, the Secretary read what was announced on the circular convening the meeting as a "Paper" on "City Churches," by the late Sir Gilbert Scott, but which turned out to be the letter written by that distinguished architect to Bishop Blomfield twenty-six years ago, protesting against the provisions of the Union of Benefices Act then lately introduced into Parliament by that prelate. In that letter, Sir Gilbert pleaded for the retention of the City churches, not only on æsthetic, but on religious grounds, urging that the churches might be made more largely available for week-day services than was then the case; and he protested against their removal as a lover of picturesque architecture and ancient monuments, and on account of their interesting historical associations.

The Right Hon. G. C. Cavendish-Bentinck, M.P., in moving the adoption of the report, said he desired to address himself to the practical aspect of the subject, altogether passing by sentimental ideas, which had been most admirably given expression to in the paper which had been read. He claimed for himself some slight title to speak on that occasion, for he was one of the very first persons to sound a note of alarm in the matter, and twenty years ago he had succeeded in eliminating four of the churches from the schedule appended to Mr. Bouverie's Bill. He saw present on that occasion his old college friend Mr. Penrose, the surveyor to the Dean and Chapter of St. Paul's, who was good enough, at the time he had mentioned, to induce the Institute of British Architects to take steps for the protection of a further number of the churches of the City. Some few years ago, too, he had succeeded in saving from demolition the tower of St. Mary Somerset, in Thames-street, and he hoped that the authorities of the City would take care of it for the benefit of posterity, and not endeavour to get rid of it by a side-wind. He was happy to think that through the formation of the Society any such attempt to destroy a City church as was last year made in the case of St. Mary-at-Hill would meet with an effectual barrier. The danger they had to fear now was not from open enemies so much as from professed friends and from that fatal process called "restoration." It was not for him to define taste. He was not what was called a man of taste himself, and he did not intend to be one. He did not think taste could be defined, but we knew what was the taste of certain people. We knew what was the taste of Sir Christopher Wren, and we knew what was the taste of the great artists of the fifteenth and sixteenth centuries in Italy, which was also his humble taste. Everything he had done himself he had carried out in strict accordance with that taste, as those who would favour him with a visit would see. Unfortunately, that was not the taste of the particular individual who was called a "church architect." Without desiring to look a gift-horse in the mouth, he must say that the decorations of the room in which that meeting was held was not his taste, but was the taste of the church architect. Wherever church architects had got hold of city churches, they had imparted to them a taste of their own, which, in his humble opinion, was most destructive. The taste of the late Sir Gilbert Scott was unfortunately not the taste of Sir Christopher Wren, neither was the taste of Sir Christopher that of Mr. Street, Mr. Butterfield, or others with whom he would not attempt to find fault. It seemed to him to be the especial duty of the Society, so far as it could interfere in artistic matters, to take care that any alterations or restorations necessary in City churches should be made in the spirit of the great architect who designed them and under whose auspices they were erected. A very strong instance of the sort of thing that ought to be opposed was afforded by Mr. Burges's scheme for what was called the "completion" of St. Paul's, which, although sanctioned by the dignitaries of the cathedral and by a committee of eminent men (and of which committee he, though not an eminent man, was, by the favour of the late Sir William Tite,—who thought with him on the matter,—a member), would, if it had been carried out, have entirely destroyed the beauty of Sir Christopher Wren's grandest interior. Mr. Burges was, luckily, ultimately shown out; his design went after him, and it was devoutly to be hoped that nothing more would be heard of it. Mr. Bentinck concluded by references to St. Michael's, Cornhill; St. Andrew's, Holborn; and to St. Stephen's, Walbrook, at the tower of which latter church there had been going on what Sir Edmund Beckett had aptly characterised as "the plaster-stealing iniquity." It was very much to be doubted whether the designer of that church ever meant the rough stones of the tower to be exposed in their present manner.

Lord Talbot de Malahide seconded the adoption of the report, expressing his agreement with the spirit of the remarks on restoration which had fallen from the previous speaker.

Major Joseph confessed he could not see the relevancy of Mr. Bentinck's remarks on taste, and protested against the wholesale banter to which Mr. Bentinck had treated modern architects. As a former churchwarden of St. Antholin's he deplored the demolition of that church, but had done what he could to save the tower. Sir Christopher Wren was every whit as deficient as some modern architects in respect for the work of his predecessors. He restored the Church of St. Mary Aldermary in a style utterly foreign to it, for it was a Gothic church. He was happy to say that in the restoration which had been effected of late years all Sir Christopher Wren's incongruous work had been removed, save one item which had been left to show Sir Christopher's connexion with the church.

The report having been adopted,

Lord Forbes moved, and Mr. Richards

seconded, a vote of thanks to the secretary for reading the paper.

The Hon. Percy Wyndham moved,—

"That this meeting regrets the destruction of so many of the ancient parish churches of the City of London, both on æsthetic and religious grounds, and pledges itself to oppose any and every future scheme for the removal of a City church, or the desecration of the resting-place of the dead within the City of London."

This was seconded by Sir Robert Phillimore, supported by the Rev. Mr. Fish, the Rev. Mr. Hall, and other gentlemen, and carried unanimously. The meeting terminated with a vote of thanks to the chairman.

[Sympathising, as we do, very much with the objects of this Society (although we do not think some of its supporters sufficiently temper their zeal with discretion), we responded to its invitation to send a representative to the meeting, but the secretary, apparently entirely unacquainted with the usual practice at the meetings of such societies, refused to lend Sir Gilbert Scott's paper to any of the reporters, on the plea that the Society intended to publish it. All the reporters present were ready to pledge themselves to give only a brief *résumé* of the paper, but the secretary was obdurate. He will probably learn in time that nothing will be lost in the way of gaining publicity to the proceedings of the Society with which he is connected by giving every reasonable facility to the representatives of the Press.]

CHURCH ARCHITECTURE.

AT the quarterly meeting of the Rural Deanery of Liverpool, held last week,

The Rev. J. Sheepshanks read a paper on "The Influence of Church Architecture." In the course of his observations the rev. gentleman dwelt on the necessary qualities that should appertain to a well-constructed and well-appointed church. What was the most suitable kind of church to be built in such a city as Liverpool for the population with which they had to deal? The design of a church, he thought, should be adapted to the nature of the population in which it was placed, and the work of their large towns could be best carried on by means of large churches and numerous services, rather than by small and cheap churches, each with its overworked and impoverished incumbent. Churches should be handsome and adorned, as he was told, and this he would advocate for the practical reason that it was good for the people, and would tend to promote their attendance at worship. He believed that they, in their comfortable and comparatively affluent homes, could hardly appreciate the elevating effect that it had upon the poorer classes to pass from their crowded, ill-furnished, and often squalid homes, into a stately and well-ordered house of prayer, where everything—the architecture, dimensions, and the furnishing, and all adjuncts—showed that it was a house built in honour of the heavenly Father. He thought it would be unwisdom to suppose that they should be tied down to Gothic or any specific style. Churches should be capacious, dignified, impressive, and suited for the Anglican mode of worship. The speaker also touched upon symbolism, showing how the Gospel was thoroughly symbolistic.

The Chairman (Canon Warr) in referring to the acoustic properties of churches which had been mentioned by Mr. Sheepshanks, said it was of great importance that the people should hear God's Word spoken and read, as well as they should see the ceremonies.

Mr. T. D. Barry, architect, argued in favour of the architecture of English churches being of the simplest possible kind. He said that when he viewed the grand old structural edifices of England,—those, for instance, which had such an imposing appearance as Salisbury Cathedral,—his mind dwelt more on the work of man rather than upon that of God. Palatial architecture, therefore, tended to take away thoughts of the glory of the Redeemer, and he hoped that when they came to erect a cathedral in Liverpool, they would not follow in the footsteps of those in older cathedral cities, but would build in the homely English style.

The Chairman.—Pardon me—what is the "English style?"

Mr. Barry replied that it was Early English Gothic, which he hoped would be adopted for Liverpool's new edifice. Some wanted a Pagan style of architecture—the Roman; but he trusted they would not have it.

The discussion was continued by other gentlemen, lay and clerical.

THE SPECIAL PLANNING AND ARRANGEMENT OF SUNDAY SCHOOL BUILDINGS.*

ARCHITECTURAL ASSOCIATION.

WE must preface our report of the discussion which ensued upon Mr. Maylard's paper by giving some particulars of the two uppermost plans published by us last week on p. 756, and to which no reference was made in the paper, although a short verbal description of them was given by Mr. Maylard at the time the paper was read. Mr. Maylard thinks that a Sunday school building comprising all the necessary requirements ought to contain (1) a general class-room, with the radiating rooms round, including one or two available for infant classes; (2), a vestry for Church services, available also for extra Bible-class or library; (3), senior Bible-class rooms, distinct from the general room, but in proximity to and in connexion with it. For the use of those scholars whom it is desired to attach to the Church, special rooms must be provided, combining accommodation for club purposes and for refreshments such as tea and coffee. It would be advisable to provide for a care-taker, who should have a living-room and bedroom for his own use, and a kitchen for the supply of tea and coffee, &c. A basement should be provided for storage room for extra chairs, forms, &c., and for the heating-chamber, with coal-store in connexion. Closet accommodation would be requisite for the boys and girls outside, and for the use of the clergy and others using the vestry or library. A school building combining all these requirements could be arranged as shown by the plans suggested by Mr. Maylard, and published on page 756 of the *Builder*, which show on the ground-floor a central room, A, 40 ft. by 20 ft., for 150 scholars; six radiating class-rooms, B, for 156 scholars; and an infants' class-room, C, for 85 scholars, all with their separate accesses, and all available for use as one large room to suit 500 people. The position of the desk of the superintendent is such that from it he can see every scholar in all these rooms, and the same would be the case when used for Church services. A large arched recess is at the back of his desk, with a platform for speakers on occasions of parochial meetings. A vestry or library, D, is arranged at the back of the platform, with lavatory, water-closet, and book cupboard. Right and left of this room are entrances for senior boys and girls respectively, with a class-room, E, for each, to hold 36. The total number of scholars thus provided for is 463. The entrance on the left hand has a large lobby or waiting-room, F, for use when the books are given out from the library, and that on the right hand has a lobby, G, with staircase leading to the rooms above. All the entrances have porches with inner and outer doors. The two senior class-rooms would be of such a height as to allow of a *mezzanine* or intermediate story of two rooms for the care-taker over the waiting-room and vestry, approached from a landing halfway up the stairs. The upper floor is entirely arranged to meet the object of attaching young men to the Church, and has its separate access by means of the staircase. Accommodation is provided for a reading-room and library, H, on the right hand, and a tea and coffee room, I, on the left hand, with kitchen, K, in connexion, fitted up with a serving window opening into the corridor. Lavatories, cupboards, and closets are also provided. For class purposes and for club meetings the senior boys' class-room on the ground-floor and the room adjoining would be available, as they would only be required for the purpose on week-day evenings. If desired, a gallery could be arranged round the large central room, approached from the corridor, and available for seating about 80 parents on the occasion of the presentation of prizes or other school gatherings.

In the discussion which followed the reading of the paper on the 11th inst.,

The Chairman (Mr. S. Flint Clarkson) said that subject was not altogether new, but it was sufficiently new not to have come before any meeting of architects previously. The paper afforded an illustration of the way in which buildings, in countries like our own, constantly made fresh demands upon architects. The system of Sunday-schools, he supposed, might now be considered to be fixed as one of the institutions of the country for some long time to come. Such schools had had their trial, and had been found to be desirable institutions. They had hitherto been carried on in such buildings as could be obtained during their time of trial, and now that it became desirable to consider them as permanent institutions, it was the duty of architects to consider how to provide buildings best suited to their requirements. Buildings for purposes of primary education had attracted much attention of late, owing to the passing of the Elementary Education Act ten years ago. Buildings for purposes of secondary education were now beginning to attract attention, and buildings for Sunday-school purposes were also calling for consideration. Mr. Maylard in his paper had laid down what he regarded as the best plans for Sunday-schools, and it was for the members to express their opinions upon them.

Mr. John Sulman said that Mr. Maylard had admittedly treated his subject essentially from a Church of England point of view, and had attempted to show that there was a considerable difference between the requirements necessary in a building for a Church Sunday-school and those in one for a Nonconformist Sunday-school. In his (Mr. Sulman's) experience of Nonconformist Sunday-schools the difference between their requirements and those of schools under the management of Churchmen was not so great as Mr. Maylard appeared to imagine. Under either management, a Sunday-school consisted of a number of classes, each class with its own teacher, and the whole under the superintendence of one person. In both Nonconformist and Church Sunday-schools it was desirable to have as many class-rooms as possible. Mr. Maylard had said that for the purpose of his paper he had assumed a good teaching staff. Did he mean by that a staff of teachers accustomed to, and, in fact, trained to, the work of teaching? Because, so far as his (Mr. Sulman's) experience went, Sunday-school teachers were very seldom trained teachers, but were nearly all young men and women of no very large experience in teaching, but possessing a considerable amount of zeal. Now the number of scholars which a trained teacher could teach and the number which an amateur could teach were two very different things. In Sunday-schools no one teacher should have more than ten children to teach, although of course the senior classes might be much larger, according to the age of the scholars and the power and capacity of the teacher. In Nonconformist, as in Church Sunday-schools, the hollow square, or three-quarter circle, was alike admitted as the best mode of arranging the scholars around the teacher. In Nonconformist Sunday-schools the children on entering took their places in the general room, and at the specified time the school "opening" took place. This consisted of Bible-reading, prayer, and the singing of a hymn. During this portion of the proceedings it was of course desirable that every child should be seen by the superintendent. But it was, he thought, hardly necessary, although to a certain extent desirable, that the superintendent should be able to see from his desk the whole of the children when they were subsequently broken up into their respective classes. In Nonconformist Sunday-schools it was the custom for the superintendent to walk about from class to class during teaching time, with the object of seeing and hearing how the scholars were being taught, and with the view of observing whether the teachers were up to their work, because if they were not efficient more capable teachers were found. Therefore in Nonconformist Sunday-schools the plan of having radiating class-rooms was not a *sine qua non*, although such a plan, with its central area for services or lectures, was equally applicable to Nonconformist as to Church Sunday-schools, for in closing a Nonconformist Sunday-school the children were again all assembled together for Bible-reading, prayer, and hymn-singing, with the addition, in most cases, of an address by some visitor or friend, or perhaps by one of the senior teachers. Mr. Maylard's plans, and the "model plan" published by the Sunday School Union [designed by Mr. C. J. Innocent, architect, Sheffield], were admirable as aiming at theoretical perfection, but they were nearly all of them very costly, and that was a fatal objection to them, for, as a rule, the managers of Sunday-schools had not very large funds available for building purposes. It was all very well for architects, in planning Sunday-schools or other buildings, to aim at an ideal and theoretically-perfect plan, but practical necessities must be met, even at the sacri-

* See p. 755, *ante*.

fice of some points of theoretical completeness. Owing to limited funds, it would continue to be necessary for architects to design buildings which could be available not only for Sunday-school purposes, but for letting for lectures and meetings of all kinds. For the purposes of public meetings, the semicircular plan was not so well adapted as a rectangular plan, for speakers and lecturers did not as a rule feel quite "at home" when they had one-third of their audience directly in front of them, and the other two-thirds at the sides. In the majority of cases the problem of economically providing buildings which should be fairly well adapted for Sunday-school purposes and for public meetings would be most suitably met by a rectangular building with class-rooms ranged round three or four sides. As to providing for infants in Sunday-schools, he thought the best plan would be, wherever possible, to keep them all in a separate and, if possible, detached room, provided with a stepped gallery for seating purposes, and with a wide space in front of the gallery for marching the infants about, just as in the Board Schools. Infants needed to be amused more than taught, and their presence in the same room with older children would detract from the order and discipline which it was so necessary to maintain.

Mr. James Weir said that he was no advocate for what had been called "model" plans, either for Sunday-schools or for any other buildings. A "model plan" was somewhat akin to a soldier's uniform,—it would suit everybody and yet suit nobody. In the midland and western counties more attention seemed to be given to the planning of Sunday-school buildings than was given to it in London. He had devoted some attention to American plans of Sunday-schools. The American architect, as a rule, seemed to exhibit greater freedom and excellence in planning, although he was generally infamous as to his architecture. In England we were so conservative in our views,—so desirous of always keeping within certain limits. Sunday-school buildings should, he thought, be built specially for Sunday-school purposes, just as week-day schools were built expressly to serve the purpose for which they were intended. In his opinion it was desirable that the superintendent of the school should have a view of the whole of the school during the whole of the school hours. The planning of Sunday-schools must of necessity claim more attention from architects in the future than it had done in the past.

Mr. Hampden W. Pratt, in moving a vote of thanks to Mr. Maylard for his paper, expressed his general concurrence with the remarks made by Mr. Sulman.

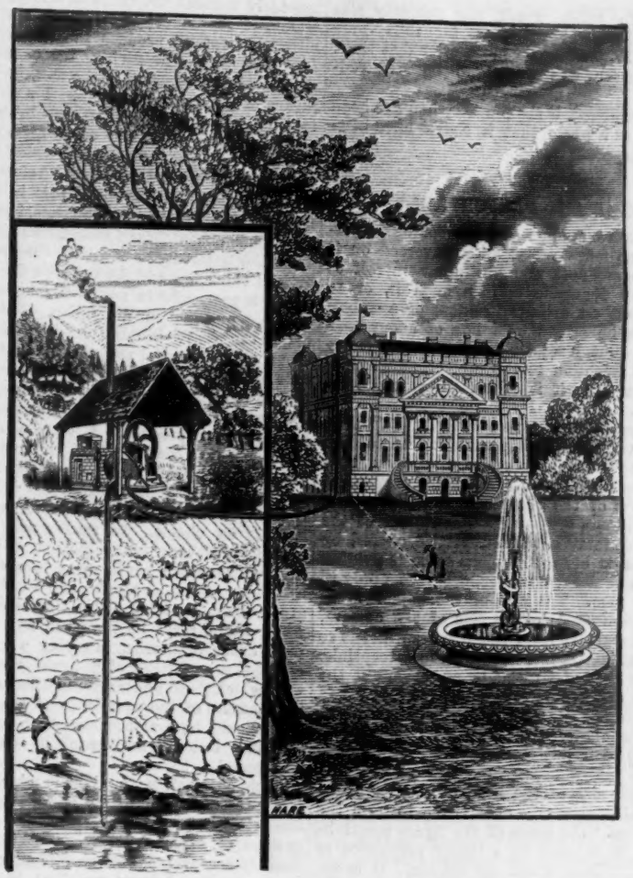
Mr. J. Douglass Mathews, in seconding the motion, said that although the semicircular plans exhibited had their good points, such buildings would necessarily be difficult to treat externally with success. He supposed it was an accepted fact that there was no way of teaching Sunday-schools properly without a number of class-rooms. If so, it became a question whether architects could not somehow contrive to adapt existing school buildings for Sunday-school purposes. Owing to the establishment of Board-schools, many national schools were now shut up during the week, and were used for Sunday-schools only, and it was surely worth while to consider how best to adapt those buildings to their new use.

The vote of thanks having been put from the chair, it was unanimously carried, and Mr. Maylard briefly replied on some of the points raised during the discussion.

This being the last meeting of the Association for the present session, the officers for Session 1880-81 were elected as follow:—

President.—Mr. Ernest C. Lee.
Vice-Presidents.—E. B. l'Anson, M.A., and T. E. Collcutt.
Committee.—R. L. Cox, J. Neale, Cole A. Adams, G. R. Redgrave, W. Hilton Nash, Hugh Stannus, A. Conder, E. G. Hayes, R. [illegible] Pownall, and S. Flint Clarkson.
Treasurer.—J. Douglass Mathews.
Assistant-Treasurer.—T. Williams.
Librarian.—Hampden W. Pratt.
Assistant-Librarians.—R. L. Cox and J. Bilson.
Secretaries.—R. C. Page and F. E. Eales.
Auditors.—W. Crisp and J. Smith.
Solicitor.—Francis Truefitt.
Registrar.—T. H. Watson.

Market Harborough.—A national school has been built on the Coventry-road. It will cost about 850*l*. Mr. H. M. Townsend is the architect.



BAILEY'S HOT-AIR ENGINE.

At the recent exhibition of the Manchester Horticultural Society, at Old Trafford, Manchester, great interest was taken by the thousands who visited the well-laid-out gardens of the society in the hot-air engine manufactured by W. H. Bailey & Co., of the Albion Works, Salford, Manchester, a firm which seems to have devoted some attention to the development of small motors,—for their organ-blowers, water-motors, hydraulic lifting-machines, and small domestic water-wheels are now generally known.

The hot-air engine manufactured by this firm is known on the Continent as Lehmanns's: it is made from one-hundredth of a horse to 5-horse power. The very small ones are driven by means of a spirit-lamp or gas-flame, and the larger ones from a quarter-horse power to those of 5-horse, are driven by slow-combustion furnaces, coke or coal, tanners' bark, or chips being used as fuel.

Our engraving shows the application of the hot-air engine for pumping purposes, it being in this case used in connexion with Norton's patent tube wells. The makers declare that they can lift 1,000 gallons of water 100 ft. high for one pennyworth of coke; if the work can be done for twopence, we are of opinion that many will be willing to pay it.

The principle of the hot-air engine consists in utilising the expansive properties of air; the air expands when in contact with the hot end of a cylinder. This forces the piston forward, and the air then cools, for it comes into contact with the cool end of a water-lined cylinder, which contracts the air; and the air having been thrust back by a displacer against the top end of the cylinder, the operation begins again, and thus the reciprocating action is obtained, and the stroke of the engine drives the fly-wheel; of course, there being no boiler there is no danger of explosion.

The difficulty hitherto experienced by the schemers of hot-air engines has consisted chiefly in obtaining a packing that would keep the piston tight; now this difficulty ceases, as the packing of the piston is a strap of leather, which works only in the cool end of the cylinder.

Judging from testimonials and circulars, Messrs. W. H. Bailey & Co. are making considerable progress in the introduction of these hot-air engines.

NEW INSURANCE COMPANY BUILDINGS IN CORNHILL.

A handsome block of buildings is about to be erected in Cornhill for the London and Lancashire Life Company, and the Fire Assurance Association, a new insurance body, the first-named business of which has, until recently, been carried on in the building at the corner of Leadenhall-street and Bishopsgate-street, which will still be known as the offices of the London and Lancashire Insurance Company. The foundations of the new building are now being got in, and the structure will have a frontage of upwards of 50 ft., and be carried to a height of about 70 ft. The elevation of the building will be chiefly in Portland stone, polished granite being freely introduced. The elevation will extend over Sun-court, which will form one of the new entrances, in addition to that in Threadneedle-street, to the extensions and new apartments added to Merchant Taylors' Hall, which have been for some time in progress, and are now nearly completed.

The architect is Mr. Chatfeild Clarke, and the builder Mr. Lawrence, of the City-road. The estimated cost of the building is about 20,000*l*.

SALE OF FREEHOLD GROUND-RENTS AT SOUTH KENSINGTON.

Last week were offered for sale by public auction at the Mart the freehold ground-rents, amounting to 250*l*. per annum, secured on property consisting of 77 residences, the premises including three licensed houses, stabling, and yards, the whole situated between Gloucester-road and Gloucester-grove East, in the Old Brompton-road, and occupying an area of between 3 and 4 acres. The present rack-rents are stated to amount to about 5,600*l*., deferred for thirty-nine years.

There was a large attendance in the sale-rooms, and the bidding was vigorously carried on, 10,000*l*. being the first offer. Ultimately the property was knocked down for the sum of

20,500*l*. In other words, the property was bought to pay 1¼ per cent. for thirty-nine years, and 27 per cent., or more, after that time. The purchaser was stated to be Mr. Tod-Heatly.

It was arranged, if the property had not been purchased as a whole, that it should have been put up in separate lots.

SIZE AND PROPORTION.

SIR,—I have studied the subject of proportion for too many years, and conversed on it with too many able men, to allow myself to express any dogmatic opinion upon it, or to suppose that an artistic problem of a subtle nature can be solved by a line of anonymous criticism. But I rejoice to see that my letter has called attention to the subject, and I shall be yet more glad if it calls forth valuable information.

With regard to the remarks of "B.," they would be very just if they were applied to such a photograph as he proposes to take,—viz., that of a statue in the round. The noble permanent photographs of the sculpture in the Vatican, taken by Braun, are strong illustrations of the truth of this remark. The distortion caused by the camera is here as obvious as it is painful. The same remark, however, does not apply to my little gem. The size of the object is so small as compared to the lens of the camera, and the departure from the plane surface is so slight, that optical distortion is imperceptible. Nor is the head of Theseus by any means at the extremity of the field of the intaglio. If I had an opportunity of showing the photograph to "B.," he would at once see that his theory does not apply to it any more than to an ordinary portrait.

As to the size of the head of the Venus dei Medici, of course, any one is free to form the opinion that "the grace of the figure would be liable to be injured by a larger proportion of the head." That is not my opinion. It is not that of the best judges with whom I have discussed the subject. That, however, is neither here nor there. What is more to the point is, that the size of the head is considerably and determinately less than that prescribed by the canon of Polycletus, and found in the examples of the finest Greek statues. It is well known that the school of Lysippus departed from the noble proportions of Phidias and his contemporaries; and I think the general consent of sculptors is that they so departed to the manifest deterioration of their work.

To enlarge or diminish a cube it is not necessary to resort to an apparatus like that of Mr. Cheverton. That "what is true of geometric forms is also true of artistic" is easily said, but after all it is only begging the question to say so. The effect of the camera on a simple geometric form has nothing in any way to do with my letter. I state a fact, as to which I seek for an explanation. The head of the gem in question is disproportionately large. The fact can be ascertained by very careful measurement, but it was first made palpable to the eye by the camera. It is not the enlarging or reduction by photography that has altered the proportion. It was the instinct of the artist that did it. It is into that instinct that I seek to inquire. The width between the eyes of the observer has no relation to the question raised, although there is no doubt that such difference in width gives a difference in the appreciation of size—as between two observers—or as between different stages of the growth of the same observer.

One illustration may be adduced from photography; and it remains to be seen whether it is only an illustration. There is no doubt of the difference in artistic effect between an enlarged and a reduced print of the same portrait. For this there is an optical reason. While the contours are reduced in diminishing the image, the lights and shades are not proportionately altered. Thus what corresponds to a certain extent to aërial perspective is distorted, and hence the harsh and vulgar effect of the ordinary *carte-de-visite* photograph.

The question then suggests itself,—How far is a similar effect to be traced in sculpture, in the round, in cameo, or in intaglio? To a certain extent, I think, there must be something of the kind. If a good artist draws a small sketch of a large object, he does not seek to reproduce all the lines which photography, if infinitely truthful and delicate, would give. He gives by a few masterly touches the effect of a mass of detail, which, if reproduced in exact miniature, would altogether fail to produce the required effect. In doing this,—in giving, for example, the shadow of the brow, or of the mouth,—exaggeration is almost unavoidable. I am disposed to think that this is the true solution of the problem. The artist may err in his proportion. He may make the features to which he has to give life too large for their just relation to the whole figure. But, even if this is the case, there will be a feeling in the rendering which is altogether absent from a mechanical diminution. That the latter does not satisfy the taste of the artist I think few will deny. How far the gem-cutter is successful in any particular case is, of course, a question for discussion. But the task before the worker in miniature is rather translation than mechanical reduction. Of the infinitude of minor traits which the portrait sculptor may grasp, the gem-cutter can only appreciate the general effect. It is that alone which he desires to produce. A certain degree of departure from mathematical proportion is here unavoidable. It is very possible that the gem cutter may exceed his limits. But it is the fire, the life, and the delicacy of his work which give it its charm. To render this the artist must have elbow-room,—elbow-room in proportion to his scale of work. One man works with a broader or deeper touch than another,—each great artist with his distinctive touch. Thus, while there must be limits to any departure from exact proportion in giving a reduced or enlarged reproduction of a figure, the accuracy with which these limits are regarded will not be the measure of the excellence of the work. A gem should be first effective, then as exact as may be. But the first requisite will override the second.

Such, at least, is the light in which the subject presents itself to my mind, after reading the letters of your correspondents. The suggestion of experiment is one that commends itself to acceptance, but the difficulty attending it is great. A very excellent instance was afforded, some years back, by the change effected in the pose of the Venus of Milo; and few persons who saw the three arrangements of that beautiful statue, which were placed side by side at the Crystal Palace, would have hesitated as to which must have been the line of the sculptor. But if we were to substitute the head of the Venus of Milo (or rather a reduction of that head, in the ratio of 83·5 to 63, the heights of the figures, of each), in inches, for that of the Venus dei Medici,—I speak, of course, of casts,—it is very likely that failure would be the result. It would, however, I believe, be failure due to the want of artistic ability in our time, and would not impeach the position that the proportion of $\frac{1}{7\cdot5}$ is a nobler proportion for the head to bear to the height than that of $\frac{1}{8\cdot4}$, such being the respective proportions of the two statues cited. TOREUTICOS.

THE SCULPTURE OF PRAXITELES.

The sixth of Mr. Newton's course of lectures* to students of University and King's Colleges, on ancient Greek art, was delivered last week. It treated of the sculptor Praxiteles and his works. It was, said the lecturer, a matter in dispute at Rome in the time of Pliny whether Praxiteles or Scopas was the author of the group of Niobe and her children, and this question still remained undecided. The original group was in a temple of Apollo at Rome, dedicated by C. Sosius, B.C. 38, who had probably brought it from Seleucia in Cilicia. The Roman copies of this group, now at Florence, had been found at Rome in 1583. It was still a matter of controversy whether the original group had decorated the pediment of a temple or had been placed in a portico; some had proposed a semicircular arrangement. Much of the beauty of the original sculptures had doubtless been lost in the Roman copies, but they had preserved the general motive of the composition. In the untimely death of the children of Niobe and the grief of their mother we had one of the most moving incidents in the whole range of Greek tragedy, and the manner in which it had been treated in this group was in accordance with the principle of ancient sculpture in its best time, when pathetic effect was attained by expression so subdued and self-contained as not to disturb too violently the permanent lines of beauty. In the British Museum was a circular relief in which the story of Niobe and her children was represented in parallel lines on the side of Mount Sipylus, and the two avenging deities, Apollo and Artemis, who were wanting in the Florence group, were introduced. The most celebrated work of Praxiteles was the nude figure of Aphrodite in a temple at Cnidus. This was the statue originally offered to the people of Cos, who preferred a draped figure of the same goddess, also by Praxiteles. It was not to be supposed that he was the first to represent Aphrodite naked, for in Carrey's drawing of the western pediment of the Parthenon she was thus represented seated in the lap of another goddess, probably Thalassa. The innovation, if any, made by Praxiteles must have consisted in this, that he made a nude Aphrodite the principal object of worship in a temple. A rare bronze coin of Cnidus showed the general motive of this statue. The goddess was represented standing by a vase holding in one hand her garment, which she had just taken off before going into a bath. There were many Roman copies and varieties of this figure, none of which had so much claim to our attention as a statue in the Vatican, which had been unfortunately disfigured by the unmeaning tin drapery which had been added to it in the early part of this century. Another favourable subject of Praxiteles was the god Eros, of whom he made several statues; one of special celebrity, at Thespiæ, in Bœotia. At this period Eros was represented as a slender youth, still retaining something of the well-strung type of the young athlete. Such an Eros we had on a very small scale on a gold ornament found in a tomb at Camirus, in Rhodes, and now in the British Museum. It was impossible to recognise with any certainty copies of the Praxitelian Eros in any extant statue. The Apollo Sauroctonos, or lizard-slayer, was another work by Praxiteles, of which we had more than one copy. The type was effeminate. Dionysos and his attendant Satyrs and Mænads furnished several subjects. Probably to the school of Praxiteles might be referred both the types of Dionysos, one of which represented him as bearded and fully draped, the other as a naked youth. In the British Museum was an exceedingly beautiful head of the young Dionysos, which was probably derived from a Praxitelian source. The myth of Demeter and Persephone was also commemorated by Praxitelian sculptors in more than one group. The Demeter found by the lecturer at Cnidus, the head of which was of exceeding beauty, and other remains of statues found with it, might also be attributed with probability to the same school. In the recent excavations at Olympia a statue had been discovered which might certainly be attributed to Praxiteles, because it corresponded perfectly with the description of Pausanias. It represented Hermes holding on his left arm the infant Dionysos. A cast of this statue was now to be seen in the Elgin Room at the British Museum. The celebrated bronze head of a goddess, found in Armenia, and purchased of Mr. Castellani some years ago, had also been attributed with probability to the school of Praxiteles.

* See pp. 644, 673, 774, *ante*.

PARLIAMENTARY JOTTINGS.

The Employers' Liability Bill.—In the House of Commons on the 19th inst., the Attorney-General, replying to Mr. Macdonald, said the workmen employed in the Government dockyards and other establishments did not come within the provisions of the Employers' Liability Bill. It was not intended that they should be included in its provisions, for it was a well-known legal principle that the Crown could not be proceeded against by a subject in respect of injuries caused by negligence. Moreover, if workmen in the Government dockyards were brought within the scope of the Bill, they would be placed in a better position than the rest of the public.

The New Law Courts.—In the House of Commons, on the 21st inst., in answer to Sir John Holker, Mr. Adam said,—Plans for the ventilation and warming of the new Law Courts have been adopted. These plans can be seen at the architect's office. They are very voluminous and there is only one copy. Tenders are now being invited for carrying out the work, and, pending the acceptance of any of these tenders, it would be manifestly inconvenient that copies of the plans should be placed in the Library for general inspection.

The Attock Bridge.—In reply to Mr. Onslow, who asked a question relative to the ironwork of the bridge across the river Attock, the Marquis of Hartington said,—The firms employed to make the ironwork for the Attock bridge are as follow:—For the girders (steel and wrought-iron), Messrs. Westwood, Baillie, & Co., of London; for the piers (wrought-iron), Messrs. Handyside & Co., of Derby, These firms were not, it is believed, in any way concerned in supplying ironwork for the Tay bridge. All the materials of which the Attock bridgework is constructed are carefully tested, in accordance with a strict specification based on the most recent experience, by Government inspectors. The bridge is being made of steel and wrought-iron. No cast-iron is employed.

Standard Weights.—Mr. H. Fowler asked the President of the Board of Trade whether, having regard to the great inconvenience caused to the iron trade by the highest standard weight now legalised being 56 lb., he would cause a new denomination of standard weight equal to 112 lb., or one hundred weight, to be made and duly verified, in accordance with the provisions of the Weights and Measures Act, 1878. Mr. Chamberlain: There is a great objection to multiplying legal standards, owing to the cost thereby thrown upon local authorities, who have to obtain copies, and there would also be some inconvenience in having another standard of so nearly the same weight as the cental. In these circumstances the Board of Trade would not, I think, be justified in legalising a weight of 112 lb., unless there was a general demand for it. At present there has been no such demand, there having been but one application during the last twelve months.

New Streets in the Metropolis.—Mr. Gregory asked the hon. baronet the member for Truro what progress had been made by the Metropolitan Board of Works in the construction of the new streets from Charing-cross to Tottenham-court-road and the Regent-circus to New Oxford-street respectively, or in the acquisition of the property required for the same; and whether there were any and what special reasons for the delay which had already occurred, or any obstacles in the way of proceeding with communications which were so much needed between the north and south of the metropolis. Sir J. M'Garel Hogg: In reply to the question of the hon. member, I beg to inform him that the progress of the two improvements referred to has been delayed in consequence of the difficulty of dealing with the property occupied by the labouring classes, but, where not so occupied, a considerable amount of property has been acquired for the street from Piccadilly to New Oxford-street. By the terms of the Act of Parliament not more than fifteen houses occupied by persons of the labouring class can be removed until sufficient accommodation in suitable dwellings has been acquired elsewhere for the numbers displaced. Consequently, if the Board proceeded to acquire property so occupied, possession could not be taken until the requisite accommodation had been provided. I may add that although under the Act the Board has the power to acquire sites by agreement, they have no authority to erect labourers' dwellings, and building companies or societies have evinced no alacrity to take lands for such a purpose.

CLAIM FOR COMMISSION.

LAST week, at the Wandsworth County Court, Messrs. Andrews & Cromar, a firm of house-agents at Battersea, brought an action against Mr. Cox, a builder, at Battersea, to recover the sum of 22*l.* 10*s.* commission, arising out of the purchase of four houses, on the Falcon Estate, Battersea, by ex-detective inspector Meiklejohn, whose connexion with the great turf frauds was so prominently brought before the public about three years ago. On the part of the plaintiffs, Mr. Meiklejohn deposed that he first heard of the houses through a Mr. Sharman, who referred him to the plaintiffs, the agents for the sale of the property, when Mr. Andrews, one of the plaintiffs, showed him over the houses, and he agreed to give 1,025*l.* for them, but that amount the defendant, who was the owner, refused to take, and the negotiations were broken off. A few weeks afterwards a Mr. Watson again introduced the property to him, and the defendant then agreed to accept 1,025*l.*, on which he (witness) purchased the houses, and was now living in one of them. His Honour gave judgment for the plaintiffs for the amount claimed.

SALE OF PROPERTY IN MAYFAIR.

LAST week, Messrs. Chinnock & Galsworthy offered for sale, at the Auction Mart, a leasehold town residence in Charles-street, Berkeley-square, stated to occupy one of the best positions in that fashionable neighbourhood, and containing dining and drawing rooms, boudoir, with full suites of seven bed and dressing rooms, with spacious domestic offices, held for an unexpired term of 33½ years at a ground-rent of 24*l.* per annum. The particulars stated that the present owner had spent a large sum of money in having the drains put into thorough working order. The property was sold for 4,000*l.*

PUBLIC BATHS, SALFORD, LANCASHIRE.

THE Corporation Public Baths which have been erected in Blackfriars-street were formally opened by the Mayor, Alderman Robinson, on the 9th inst. The building has a frontage of 71 ft., and extends backwards 131 ft. to Ravald-street. The arrangements are,—at the entrances, for ticket-office and waiting-rooms, separate for gentlemen and ladies. The men's plunge-bath has a water space of 81 by 24 ft., the one end being 3 ft. 8 in. deep to the water-line, and the other 6 ft. 6 in. The ladies' swimming-bath has a water space of 32 ft. by 16 ft., and the depth varies from 3 ft. to 4 ft. 6 in. The side walls to each bath are lined with enamelled white bricks, and the bottom with 6 in. by 6-in. white glazed Minton tiles. There is also a galvanised handrail for the convenience of bathers fixed above the water-line, and also spittoons fixed to the sides, which answer for the overflow. Also at each end of the plunge-bath there is a water spray which comes out of the perforated handrail. The side walls of the plunge-baths have a moulded concrete coping, with inverted channelling to carry away the dripping water from the bathers; and this is covered with a lattice wooden flooring, which gives access to the side dressing-boxes, of which there are fifty in number to men's and twelve to women's plunge-baths. Each dressing-box is 4 ft. by 3 ft., and formed with wooden partitions, 7 ft. high, and contains seat and looking-glass. There are also a foot-bath, for the washing of feet, supplied with hot and cold water, in each of the plunge-baths, and likewise a shower-bath. On the ground-floor there are twelve slipper-baths, second class, for women, and also shower-baths; and on the first or upper floor twelve slipper-baths, which are fitted up a little superior, and marked first class. There are also on the men's side of the building eight slipper-baths, marked first class; and on the overhanging gallery to men's plunge-bath sixteen slipper-baths. This gallery has a good feature with it, and is well constructed. It is supported on cast-iron columns, with cantilevers, floriated spandrels, and brackets, in the centre of which is introduced the crest of the corporation. The soffit or ceiling of this floor is formed with the joisting being wrought on all sides, and also the flooring-boards, which are all visible, as also the wrought-iron girders; and these combined denote the mode of construction. The front of the gallery is surmounted with a balustrade, handrail, and newel-post, the whole being of polished birch. The access from the ground-floor to the first floor is approached by stone steps and landings, the staircases having ornamental cast-iron balusters and polished birch handrails. There are also ceiling-lights heavily moulded and having a marginal perforated zinc panel round same, and these give light and serve as ventilators to both staircase and private baths. The entrance-halls are laid with encaustic tiles by Faulkner, of Manchester. The basement contains two boilers of 25-horse-power each, and these generate the steam required, which boils the water for washing (towels) purposes, and supplies the hot water for slipper-baths, and the warming of plunge-baths. This latter has had special consideration by the borough engineer, Mr. Jacob, and is said to be a great success. The circulation of the water is conveyed through 9-in. cast-iron pipes along arched subways, the crown of which forms the pathway round the plunge-baths and the floor of the dressing-boxes.

Attached to the boilers there is a chimney rising 90 ft. above the street level, with square base and octagonal shaft. Also there is a drying-stove for linen, fitted up by Thomas & Taylor, Salford, and the requisite wash-tubs and cold water. These are also fitted with steam-jets, to boil the water when required.

The roof is formed with wrought-iron principals, wood louvres, and iron purlins, and the ceiling plastered to raking line. The interior walls are faced with stock bricks to the plunge-baths, and the remaining walls are plastered, and have moulded cornices. The front of the building is designed in the style of the Queen Anne period, and is faced with red Ruabon bricks and moulded terra-cotta from the same locality, the windows having a quaint appearance by being in small squares above the transoms, and form the ventilators, the whole being glazed with cathedral tinted glass. The middle portion of the front elevation has a moulded cornice of bricks, with iron gutter, and the gables on each side have a heavily-moulded stone cornice, filled in with ornamental terra-cotta panelling.

The cost of the building is about 10,000*l.*, the contractor being Mr. John Wilkinson, of Pendleton; the ironwork and pipe circulation by Messrs. Barningham, of Pendleton; the decoration and painting by Mr. T. Cook, of Salford; the general arrangements and supervision by the borough engineer (Mr. A. Jacob); the architectural work by Messrs. Brockbank & Wormall, of the engineer's department; and the whole has been carried out under the superintendence of Mr. John Handford, clerk of works for the corporation.

SALE OF A FACTORY IN TURNMILL-STREET.

LAST week, an extensive block of buildings, in Turnmill-street, Farringdon-road, Clerkenwell, consisting of a large factory and workshops, was sold by auction, at the Mart, by Messrs. Baker & Son. The property was stated to be partly freehold and partly leasehold, the freehold portion containing an area of 992 ft., and the leasehold part 4,310 ft. The buildings erected on the site are four stories in height, and basement, stated to be of a very substantial character, and let on lease to the Anglo-Russian Iron and Tin Plate Company for eleven years, from June, 1878, at 925*l.* per annum. The leasehold portion of the property is held for a term of 99 years from June, 1875, at a ground-rent of 190*l.* per annum. It was stated that the company had spent a large sum in fitting up the premises, and that at the expiration of their term a largely increased rental was expected. The property was sold for 10,050*l.*

OBITUARY.

Mr. Charles George Lewis, the eminent engraver, died suddenly from apoplexy at his residence at Felpham, Bognor, on the 16th inst. He was in his seventy-third year, and was the second son of the late engraver to the Queen and landscape-painter, Frederic Christian Lewis, and brother of the late John Frederic Lewis, R.A. He engraved several of Sir E. Landseer's pictures.

Professor Strack, chief architect to the German Emperor, died at Berlin on the 13th inst. The National Gallery at Berlin, the Column of Victory, and other public buildings and monuments, were erected after his plans.

THE SITE OF THE '51 EXHIBITION.

SIR,—The other evening I was holding a discussion with a friend as to the site in Hyde Park of the Great Exhibition of 1851, and neither of us could come to any decision as to the exact spot where the Great Exhibition was located. I am confident you will agree with me that some suitable memorial should mark the spot where stood a building which so greatly influenced the commerce of this country,—ay, even that of the world. In a short time, thirty years will have elapsed since this glorious undertaking had its existence, and I am of opinion that this would be a good opportunity to erect some memorial of the great event, by public subscription or otherwise.

SAM. WORSSAM.

*** The site should certainly be marked. The memorial of the Great Exhibition, now in the gardens of the Horticultural Society, South Kensington, was intended to effect that object, and its erection in the Park was agreed to by two successive Chief Commissioners of Her Majesty's Office of Works; a third, however, who afterwards came into office through change of Ministry, refused to allow it to be set up there.

BEXLEY LOCAL BOARD AND SURVEYORSHIPS.

SIR,—I notice a letter signed "Disgusted Candidate," in your last impression, in which he complains of the discourteous way in which surveyorship candidates are treated by Local Boards. Bexley is not an exceptional case. I have been served worse several times, and have determined not to compete for these situations again.

Your correspondent asks, "Is it right or fair to put candidates to the expense of a journey, and decline to entertain their applications?" In his case it was optional whether he went or not. He was not selected and invited to go. The situation was merely thrown open, as all these situations are, because Boards are compelled to advertise. It is only red-tapeism, and in nearly all cases the Boards select a local candidate, who has canvassed them previously for their votes; and even if, from numerous applications, say four are selected, three strangers and one local applicant, the local candidate invariably wins. This I have proved, having been selected eight times, and then failed, the Boards being in favour of a local man.

I have competed over 100 times, and been informed that there were from 100 to 150 applicants for each of these surveyorships. It is quite impossible there could be 150 surveyors out of situations. I have proof that in one case there was only one candidate out of 120 who was a surveyor; the remainder were grocers, clerks, engine-drivers, colliers, bricklayers, bankrupt farmers, &c.

Having been a Local Board surveyor myself, I would advise would-be candidates not to try for these situations, as when obtained they are not worth having, and the more competent the surveyor is the less likely he is to keep his situation, Local Boards being composed, for the most part, of persons ignorant of what a surveyor's or engineer's qualifications should be. In some cases candidates are asked to state salary required, and the lowest is chosen without regard to his qualifications.

I consider it a very great responsibility to undertake such a post, as if the surveyor gives the slightest offence to any member of his Board he is doomed, and must resign, there being no appeal, and his chances of obtaining a similar situation again are about 1 in 700, and if a married man the prospect is very gloomy.

The situations as Inspector of Nuisances, under Local Boards, are all a farce; the Local Government Board have no authority over the inspector, and even if a Local Board agrees to accept the Government grant, and the Government pay half the inspector's salary, the inspector is no better off, and he must be careful not to do his duty or he will soon lose his situation. The two offices do not work well together.

From my experience, I would advise a "Disgusted Candidate" not to waste his time and money in trying to obtain a thankless office.

LOCAL BOARD SURVEYOR.

"PARTY-WALLS."

SIR,—The legal question involved in the following circumstances I do not find mentioned in your recent articles on the subject, and I therefore, send a statement to you in hopes that some one may help us to an explanation.

We took a contract in a large provincial town to build a large block of offices, with basement and sub-basement, on land which had been cleared of small old property. One side of the building abutted against a new block of buildings, which, on digging down, we found had its brick footing laid on a sand foundation only, some distance below which was rock of the new red sandstone formation. We had to go 13 ft. below this footing, and underbuild the wall with brick in cement, against which we built our own wall. On completing the work of underbuilding, we were informed by the adjoining owner that a crack was observable in a cornice on the wall we had so underbuilt; and a number of architects and surveyors were called in, and ultimately a demand was made upon us for the payment of 100*l.* damages. No charge was made to them for the underbuilding.

Another case. We took a contract for a large public building in the same town, to be built on land on which a row of houses stood. Part of this row had been purchased, with the freehold land on which they stood, for the purpose of this building. On pulling down the old buildings, we found the party-wall one brick thick only, half of which belonged to our side, and the whole so old and decayed that we have had the greatest difficulty in keeping it up while we worked. As our cellars went lower by several feet than this party-wall, we have underbuilt it in brickwork in cement, and built another wall against it, and have succeeded so well that not even a door wants easing, and yet, although no injury can be shown, but very much otherwise, we are threatened with a claim for damages.

In the first case we paid 100*l.* to get clear, but in the latter case we are likely to demur to any claim, and should like to receive your advice upon the subject. Talking the matter over with an old clerk of works, while not giving an opinion he mentioned a circumstance which occurred when with the late Sir W. Tite. A piece of land in Thames-street, London, had to be cleared for rebuilding. Sir William sent to each adjoining owner a notice of an intention to build three months before beginning operations. One property was a public-house belonging to a great brewing firm, who took no notice of the operations, and these went on in excavating down below the footings, until doors and sashes could not be opened or closed, and a general collapse was imminent, Sir William having a good look out kept, so that if the property fell, the contractor's men might have warning to get out of the way. Ultimately the brewing firm sent men and timber and shored the place up. Was Sir William right?

E. G.

"NOT 'WARRANTED' TO WASH."

SIR,—Let us thank Heaven that English painters have not yet, as a rule, found out the proper method of using colours, and that few modern paintings can be warranted to stand the scrubbing and soapsuds of Time. We can hardly desire to have transcripts of "nobodies," bits of sea and of landscape, portraits of favourite dogs and horses, "affectations" in millinery, and specimens of bucolic simplicity, locked up in fast colours to the interminable generations. Unless we conscientiously believe that the art of the present day has attained the highest pitch of perfection, we can scarcely hope to render much service to posterity by preserving it. Perishableness, therefore, under present circumstances, is a consummation devoutly to be wished.

What kind of art would the thoughtful man desire should be handed down, locked up in secure and "fast" colours to posterity? The beautiful? Why, no, not merely this, but beautiful ideas, noble thoughts, heroic deeds, great events. The daily aspects of things can be daily painted, and with a tolerably even measure of dexterity in all civilised times. But of all the art exhibited in our numerous exhibitions, how much of it treats themes of that loftier kind we have alluded to? Well, a very small percentage indeed.

Let us turn, however, from this aspect of the subject in hand to the "tecnique," to the chemistry of colours, about which so much fuss has recently been made; and let me ask whether the great masters were chemists? We all know, of course, that they were not. Chemistry, in the sense in which it has recently been talked of in reference to art, is quite a modern science. The old masters were not chemists in this sense, and yet their pictures, notwithstanding, stand perfectly. How is this to be accounted for? In this wise, to their using simple colours, simple vehicles, and a simple method; in their making cartoons or drawings for their pictures, and tracing these on the canvas or panel, so that they were enabled to paint the colour they had determined upon at once into its place, and not, as at present, by painting at hap-hazard, painting out and over and over again; and partly to the system of scholarship, by which experience was handed down from one painter to another.

I think, sir, we should all agree that the first things that should be striven after are the permanent or immortal thoughts; if we could make certain of these we might, indeed, have some greater care with respect to their permanent setting. To this end we should not have to travel far into the study of chemistry, for we know the means, the colours, the vehicles, &c., which the old masters used, and which gave to their works that permanence we would desire for great thoughts, viz., that four or five centuries, which David told Napoleon painters looked forward to, and which the emperor thought so insignificant that he laughed it to scorn. However, let us first have the immortal thoughts, after which what you will of chemistry to enable us to paint better, and hand our works down to posterity, even if we have to go to Church to learn to amend our ways.

METER.

"WHAT IS A BRICK-AXE?"

SIR,—If "Clarry" had put that question to a bricklayer thirty years ago he would have smiled at his ignorance. Well, sir, a brick-axe is, or was, an iron tool, like the ends of two crow-bars joined, flat at each end, and round at the centre, for the hand to hold it, with about 4 in. of steel at each end, and its length was about 2 ft. 6 in. long, according to fancy or a man's ability to use it. The axe was made to cut gauged brickwork after the bricks had been marked to the mould, as described by John Phillips in some of your former numbers, some years back, and excellent letters they are, and well worth a bricklayer's time to read them. The brick-axe is not used now,* as an iron or steel cutter is used to cut the bricks, it being struck with the club-hammer. This gives much less trouble. It required some practice to use the brick-axe with skill, and it was much harder work.

GEORGE BROWN, Bricklayer.

"WANTED, A FOUNTAIN."

SIR,—I have noticed your correspondent "J. C.'s" letter under this head, and as he invites suggestions relative to the subject, I beg to offer him my mite towards the praiseworthy object he has in contemplation.

Being a water-drinker myself, I greatly enjoy *cold* water, and have no doubt that others are like me. I would, therefore, suggest to "J. C." that he should try and secure this quality to the water of his fountain, in addition to the necessary purity, &c. I imagine it may be done by letting the supply-pipe pass through a small chamber in which ice can be packed during the heat of summer. The water of all the drinking-fountains I have visited has always appeared to me to lack the enjoyable quality of coolness, and to fail in quenching thirst, from its lukewarm flavour.

As to design, a very appropriate one, I think, would be that of "Moses smiting the rock," the figure to be of life-size, and the water "gushing forth abundantly."

A WATER-DRINKER.

TENDERS FOR ROADS.

SIR,—I see in your journal for June 12 prices for roads, sewers, &c., on the Clapham Junction Estate, and think you must agree with me that something wants explaining in reference to the manner in which this work has been tendered for.

The first week in May tenders were invited for the work, and the following were delivered at the office of the surveyors on Wednesday, May 12th, at three o'clock:—

Hoare & Son	£5,746 0 0
Harris	4,775 0 0
Turtle & Appleton	4,650 0 0
J. Neal	4,199 0 0
R. & G. Neal	2,995 0 0

For some reason, Messrs. R. & G. Neal's tender was withdrawn or rejected, and, instead of the next lowest being accepted, the prices were made public, and the surveyors thought proper to advertise the work in your valuable paper (but apparently they have not saved much by the transaction). The only material difference is,—

Messrs. Hoare & Son, instead of the highest as before, viz.	£5,746 0 0
Are now the lowest but one, their tender being	3,067 0 0

And no alteration whatever has been made in the plans or specification, or the works reduced. How such a difference can take place I am at a loss to know, and think some explanation is due to the unsuccessful contractors; for it would appear they have only been made use of for the purpose of informing the surveyors what they should pay for the works.

If you will kindly insert this letter asking for an explanation, I am sure contractors one and all will be grateful, and perhaps assist by forwarding information of any injustice done them by similar treatment, which I am sorry to say I think is too often the case.

A CONTRACTOR.

Books on Architecture and Engineering.—Mr. B. T. Batsford has just now issued two new catalogues: one of English and foreign books relating to architecture, building, and the decorative arts; and the other of books on civil and mechanical engineering, which he has on sale at 52, High Holborn. These include a large number of necessary books at moderated prices, and may be had for a few stamps.

* We saw it in use not long ago in Islington.—ED.

COLLAPSE OF ANOTHER RAILWAY BRIDGE.

A LUGGAGE-TRAIN passing over a bridge on the Hay and Brecon Railway on the night of the 17th inst. was precipitated into a stream below. The engine-driver was killed on the spot, and the stoker is severely injured. A few hours earlier a heavily-laden passenger train safely passed over the bridge. The bridge crossed a stream flowing into the Wye. From the position of the railway bridge in the centre of a bend of the stream the latter would rush direct against the west pier and abutment, and in high water (floods) strike on the soil of the embankment behind the abutment. The bridge consisted of four upright piers of masonry; abutments about 4 ft. thick; piers, 3 ft.; height, roughly, 20 ft. In the abutment now standing, which is faced with what is called rockwork shoddy, and looks pretty well, there is *no bond* through the thickness of the wall. This abutment now overhangs the stream about 6 in. or 8 in. It seems clear to us that the west abutment and pier had both yielded when the train got on the bridge—rails, chairs, and sleepers merely hanging across the stream by the fish-plates. These, of course, gave way with the weight of the engine (about 50 tons). The waterway was more than enough; there were two spans of 15 ft. each, and when the water rose 3 ft. or 4 ft. it flowed through the roadway, 9 ft. wide, giving a total width of waterway of about 39 ft. The bridge under a public road about 50 yards away has a waterway of only 24 ft., and a height of 2 ft. 6 in. to the springing of the arch, and an additional 5 ft. from the springing to the crown of the arch; yet not a stone of this little bridge (through which passed the same torrent as that which ruined the railway bridge) is injured; therefore, the water had ample room to pass through without exercising any pressure on the bridge. It should be noted that the westernmost *pier* fell *towards* the approaching train, and that the engine is embedded in the soil of the embankment in the very spot where the westernmost abutment stood, every stone of which was washed down the stream, and deposited at an observable spot before the engine arrived on the bridge. The east abutment and pier were both standing after the accident, but in an unsafe condition; the base or lower courses of the west pier remain, but no trace of the 4-ft. abutment (west) remains, the engine being embedded in the soil where that abutment stood; therefore, the pier must have been washed away before the train got on the bridge. It is plain that the torrent got behind the abutment, saturated the soil, rushed *through the masonry* of the abutment (which was not very well filled) and carried it away, but first throwing a great part of the abutment against the west pier, and pitching it over.

A CASE OF DISPUTED LIABILITY.

CASLAKE *v.* BYWATERS.

Sir,—With reference to the report of this case, published in your last issue, Caslake was not employed by Messrs. Bywaters as stated, nor was the work done for them, but for Captain Elliott, who, and not Messrs. Bywaters, had the benefit of it. They have not received, and are not likely to receive, payment from Captain Elliott for the work in question for which Caslake is endeavouring to obtain payment from them. Under these circumstances, they naturally consider the claim made against them by Caslake an unjust one.

Steps are being taken to review the verdict arrived at by the jury.

CAMPBELL, REEVES, & HOOPER,
Solicitors for the Defendants.

ARSENICAL PAPERS.

STEINHOFF *v.* WOOLLAMS.

THIS was a case, before Mr. Justice Bowen and a Common Jury, in which the plaintiffs, Messrs. Steinhoff, sued the defendants, Messrs. W. Woollams & Co., wall-paper manufacturers, for certain sums said to be due for a quantity of blue pigment supplied to the latter. Defendants refused payment on the ground that the said pigment was verbally guaranteed by the plaintiffs' agent as non-arsenical, whereas in reality it turned out to contain large quantities of arsenic. Previously, however, to discovering this fact, defendant had used the pigment in the manufacture of wall-paper, and as it has for years past been a strict rule with them to allow no arsenical papers to leave their factory, they were thus thrown between the alternatives of endangering their reputation by the sale of goods detrimental to the public health, or of having the stock of arsenical wall-paper which they had unwittingly manufactured left on their hands. They chose the latter course, and now made a counter claim on the plaintiffs for 370*l.* as compensation for loss thus incurred.

Mr. Bernard Dyer, F.C.S., analytical chemist, stated that he had analysed a sample of the pigment in question, and found it to contain rather more than one-half of its weight of arsenic.

The case chiefly turned, however, on the question of the existence of a guarantee, actual or implied, on the part of the traveller who represented the plaintiffs, and who took the order from Messrs. Woollams,—and whether the plaintiffs did or did not authorise such guarantee, and if not, whether they were bound by the unauthorised guarantee of their agent. Both the guarantee and the authorisation were denied, although the defendants distinctly stated that a verbal guarantee had been given.

In submitting the case to the jury, the judge, pointing to the conflicting evidence, left the jury to decide whether or not the general circumstances of the case were such as to point to an implied guarantee, and whether the traveller, as the plaintiffs' agent, was in a position to give a guarantee binding on his employers.

Both of these points being decided in favour of the defendants, Messrs. Woollams, a verdict was entered accordingly, the amount of damages to be settled out of Court by mutual reference to a third party.

DRAINAGE IN TOTTENHAM.

SIR,—Seeing the communications from Mr. Smith and Mr. Webley in the *Builder* of May 15th and June 12th, I am induced to request you to add my testimony to the correctness of both your correspondents' statements.

I have, for many years past, been intimately connected with house property in Tottenham and neighbourhood, and I must say that the Local Board officials make not the slightest effort to carry out the drainage works efficiently or to supervise the erection of new buildings with a proper view to their sanitation.

I am more especially concerned for the sufferers from the influx of storm-water precisely as in Mr. Webley's case, every storm rendering the lower part of the houses uninhabitable, and the water and filth spoiling everything, and exposing the inmates to the dangers of diphtheria and typhoid fever. Many houses with which I am concerned are rendered untenantable, and cannot be let on any terms. Houses originally fetching 40*l.* per annum are now empty, and likely to remain so, from the above cause.

There should be a remedy for this, and the serious loss it occasions to the owners of the property in question.

I shall feel obliged if any of your readers would kindly give me advice and suggestions, for the matter is of the utmost importance to all the holders of house property in Tottenham and neighbourhood. A. R. BREDE.

ARCHITECTURAL MODELS OF ENGLISH AND FOREIGN CATHEDRALS.

SIR,—I noticed in your journal some weeks ago a suggestion that the beautiful models of the English and principal foreign cathedrals executed, during the last twenty-five or thirty years, by Mr. William Gorringe, of Cheltenham, should be purchased by subscription and deposited in the Architectural Museum.

I have been hoping that ere this some steps would have been taken to carry out this admirable suggestion, but, as no one appears to move in the matter, I write to say that, if you, sir, will open a subscription-list, I shall be happy to subscribe one or two guineas towards this desirable object. I am sure others will follow, and the necessary amount (250*l.*) would soon be made up.

Having frequently employed Mr. Gorringe in executing models of buildings, I cannot speak too highly of the marvellous accuracy and delicate finish of his works.

I cannot help thinking that the National Museum at South Kensington would be the proper home for these models; there they could be properly seen, and would form a fresh attraction for the many visitors to the Museum.

I hear Mr. Gorringe has had offers from private individuals to purchase these models. I trust, however, this unique collection will not pass into private hands, but will be deposited in some public institution, where all interested in such works will have an opportunity of inspecting them. I may add that the models are thirty-five in number,—viz, twenty-three English and twelve foreign, and all most accurately made to a uniform scale of 60 ft. to an inch. C. J. HANSOM, F.R.I.B.A.

*** Photographs of the models may be seen at the Office of the *Builder* in Catherine-street.

VARIORUM.

"LISA'S Love," by Lady Lindsay, of Balcarres, is an artist's story, artistically told. It forms No. 5 of "Moxon's Select Novelettes," given for 6d., and if the series contain many such works as this it ought to have plenty of buyers. It tells of a brother and sister, Lisa and Josef, peasants of the Tyrol. The boy is taken to Munich by a sculptor, who meets with him in the mountains carving a pipe-head. Lisa, her love uncontrollable, follows, and is in Paradise for a brief period. But the poor plain girl, ill-dressed and untaught, is now only in the way, and is returned to her native village to pass a monotonous existence in the house of an old couple who humanely receive her. It is a beautiful little tale, natural and touching, and does the authoress infinite credit. The picture of poor Lisa at the door of her future home, with which the story ends, will bring tears from sympathetic readers:—"'Yes, I will come,' replied Lisa, taking in her strong hand Miss Dorothea's feeble white fingers. Then she bent her head and kissed them softly. With the kiss it seemed to her as though she sealed her future fate, and bidding farewell to youth and the hopes of youth, accepted that life that in all its weary monotony lay stretched out before her, even as the straight white road lay stretched along the valley, as far as human sight could reach. Flat and colourless, with no break, no turn, no prospect or deviation, the future loomed before her, but she bowed her head meekly and bravely, ready as she was to face the good or the evil which might yet be to come."——The current number of the *Nineteenth Century* includes a paper on "Landscape Painting," by Sir Robert Collier, which may be read with pleasure and profit.——A new edition has been published of the Catalogue of the Pictures in Dulwich College Gallery, and Dr. J. Paul Richter has been associated with Mr. John C. L. Sparkes in the preparation of it. Dr. Richter has rewritten briefly the notices of all the foreign schools of art, and given a list of the authorities from whom he has drawn his information regarding the lives of the artists.——The Society of Telegraph Engineers having become possessed of the remarkable library of books and papers relating to Electricity, Magnetism, and the Electric Telegraph, formed by the late Sir Frac. Ronalds, have published a catalogue of its contents (E. & F. N. Spon), edited by Mr. Alfred J. Frost. The library is to be made useful to the public. Ronalds was the pioneer to the completion of the electric telegraph, and received most incommensurate reward.——Something more for the boys,—lucky boys those of the nineteenth century are. Mr G. A. Henty, the well-known special correspondent for the *Standard* in stirring scenes, has commenced the issue of a cheap new serial for them, "The Union Jack Tales for British Boys" (Griffith & Farran), and is himself contributing some rattling stories. There is, perhaps, just a little too much cutting and slashing in the parts already given, but the writers evidently know their readers.——"The Secret of a Good Memory," by J. Mortimer Granville (Bogue), will pay for reading,—twice.——No. 207 of "Weale's Rudimentary Series" is entitled "Farm Management," by Robert Scott Burn, and contains a large amount of practical information. It is published by Crosby Lockwood & Co.

Miscellanea.

Institution of Civil Engineers.—On Wednesday evening Mr. Barlow, president of the Institution of Civil Engineers, and Mrs. Barlow, received between 2,000 and 3,000 guests at a *conversazione* held, by permission of the Lords of the Committee of Council on Education, in the South Kensington Museum. The guests entered by a temporary door in Cromwell-road, leading into the Architectural Court, and after crossing the central passage were presented to Mr. and Mrs. Barlow in that part of the building containing the collection of ancient and modern ironwork, and having as a kind of scenic background the large diagram of architectural edifices grouped so as to show the comparative heights of the principal great buildings of Europe. The picture-galleries were thrown open to all the visitors.——A new list of members has just been issued, from which it appears that there are now on the books 1,217 Members, 1,299 Associate-Members, 579 Associates, 18 Honorary Members, and 657 Students, together, 3,770 of all classes. At the same period last year the numbers of the several classes were 1,148, 1,200, 622, 17, and 591, making a total of 3,578, showing an increase at the rate of nearly 5½ per cent. During the past session the elections have comprised 2 Honorary Members, 43 Members, 129 Associate-Members, and 15 Associates; and 160 students have been admitted.

Prosecution of a Builder under Local Bye-laws.—At the Highgate Police-court, on the 21st inst., Mr. James Taverner, a builder, of Station-road, Church-end, Finchley, appeared on a summons for constructing two houses without having given notice to the Finchley Local Board of Health. He was further summoned for using improper materials in the construction of the houses. The evidence showed that the officers of the Board had not received the proper notices, as required under their bye-laws, as to the erection of two houses in Station-road, and that when the buildings were being erected it was found that the workmen were using for mortar a composition of mould mixed with ashes. No lime or sand was being used, and the damp-courses, instead of having cement, lead, or slates, had only felt. The surveyor, in his evidence, gave it as his opinion that the houses, in a sanitary point of view, would not be fit to live in, because of the damp. The Bench fined the defendant, on the first summons, 40*s.*, and 12*s.* costs, and adjourned the second summons so that they might inspect the houses.

Bret Harte.—It was a pleasure to assist at the cordial reception accorded to one of the most eminent and genial of modern American writers, Mr. Bret Harte, who is now consul for the United States at Glasgow, and who gave his first lecture in London at the Steinway Hall on Monday evening last in aid of a charity of peculiar merit, and one in which Her Royal Highness Princess Louise takes a deep interest,—the Victoria Hospital for Children at Chelsea. Mr. Bret Harte's writings are familiar to us all, and are as often read in the London drawing-room as they are by the lonely camp-fire of the pathless wastes of the prairies of the far west, so that when his intelligent face first greeted the audience, it was felt to be like that of a well-known friend. He is original in every way, having, with a singular repose of manner, a spirit of fun that bubbles up, and a peculiar smile that points the jest of the moment, and serves to make it clear to even a dull intelligence. He chose as his subject the discoverers, or as he calls them, the Argonauts of '49, men who found out the gold mines of the western sierras and began to make California what it is. With magic pencil he draws a series of life-like sketches, and places before us the portraits of these men,—athletes of free limb and manly beauty, resembling pictures of the saints, with soft silken beards and flowing locks, with primæval virtues and with modern vices. Then, as the years roll on, and the city practically forms, we see the reckless manners, the gambling-houses, we hear the slang become almost a language of itself; the heathen Chinee, so secure in his own dignity that he feels it cannot degrade him to wait on the master he believes his inferior, passes vividly before us. We feel we have crossed the ocean and the golden gates, and have seen San Francisco. And with many a witty jest that calls up a hearty laugh, with many a touch of pathos that brings a tear to the eye, we part company all too soon, with the hearty wish that this may be but the commencement of a series of lectures that Mr. Bret Harte, whilst an honoured guest among us will give.

Light and Air for Workmen's Dwellings.—A considerable agitation has arisen in Whitechapel regarding the new dwellings to be erected in Royal Mint-street by the Peabody trustees, on land cleared by the Metropolitan Board of Works under the Artisans' Dwellings Act. The origin of the agitation is sufficiently indicated in the following resolution, which has been submitted to the Whitechapel Board of Guardians:—"That the buildings proposed to be erected by the Peabody trustees on sites cleared in this union are unsuitable in character for the class of tenants requiring rooms, and are unhealthy because they are so arranged that no sunlight and little air are admitted to them." The contention is that the plans have been made only with the object of covering the ground to the best advantage, and not with due regard to the health of the people who will inhabit these blocks. It is, however, quite too late to prevent the completion of those blocks which are already in course of construction, and no harm, and much possible good, may come of the Whitechapel Guardians' reference of the subject to a committee, in order to secure local approval of any future designs for workmen's dwellings.—*Metropolitan.*

Walton-le-Dale.—The foundation-stone of new Local Board offices at Walton-le-Dale, near Preston, was laid by Mr. Richard Calvert, chairman of the Board, on Monday, June 7. The site contains about 1,797 superficial yards, and comprises several blocks of buildings. The main offices consist of, on the ground-floor, entrance and staircase hall; office, 12 ft. by 12 ft.; weighing-office and waiting-room, divided by a panelled screen, 18 ft. 3 in. by 12 ft. 6 in.; drawing office, 18 ft. 3 in. by 11 ft.; and in the rear, kitchen, 16 ft. by 12 ft.; scullery, pantry, and outbuildings. On the first-floor is the Board-room, 24 ft. 3 in. by 18 ft. 3 in.; plan-room, lavatory, and three bedrooms. The materials used will be brick, with stone dressings; the board-room, staircase, and main rooms of selected pitch pine. In the rear of the yard will be the stables for three stalls, harness-room, stone-breaking sheds, tool-house, disinfecting-shed, and other conveniences. The whole site will be enclosed by a brick wall, &c. The work is being carried out by Mr. Henry Ward, of Preston, for 1,782*l.* 14*s.* 5*d.* Mr. T. Harrison Myres (Myres, Veevers, & Myres) is the architect.

The Tay Bridge.—A Bill has just been lodged in the Private Bill Office of the House of Commons "to provide for the restoration of the railway communication across the Tay, near Dundee, and for other purposes." The Bill is promoted by the North British Railway Company, and seeks for power to reconstruct the bridge at a lower level, with alterations and additional works for strengthening the structure, so as to give greater stability to the same. The estimated cost of the proposed works, beyond the amount required for restoration, is 200,000*l.*, and the company are willing (as stated in the preamble) to execute the said works, if authorised by Parliament. The deposited plans and sections show the limits of deviation, and the method proposed to be adopted in carrying the same into effect. Powers are to be taken for the creation of the necessary capital by mortgage and otherwise, and for the same to form part of the general capital of the North British Railway Company. The period for the compulsory purchase of the land required is limited to three years. The Bill having been lodged at so late a period of the session, the promoters will have to apply to the Standing Orders Committee for leave to proceed, urging the exceptional circumstances of the case, and the general expediency of the measure. The proposal to erect the bridge at a lower level will, it is understood, be strongly opposed by the shipping interest of the locality, as interfering with the navigation of the Tay.

A Viking's Ship.—The Copenhagen correspondent of the *Times* gives an interesting account of what he justly describes as an antiquarian discovery of a most remarkable nature. In the south-western part of Christiania Fjord, in Norway, is situated the bathing establishment of Sandefjord, renowned as a resort for rheumatic and nervous patients. The way from this place to the old town of Tönsberg conducts to a small village called Gogstag, near which a tumulus or funereal hill, long known in the local traditions under the name of King's Hill (*Kongshaug*). In the flat fields and meadows stretching from the fjord to the foot of the mountains, this mole, nearly 150 ft. in diameter, rises slowly from the ground, covered with green turf. A mighty king, it was told, had here found his last resting-place, surrounded by his horses and hounds, and with costly treasures near his body, but for centuries superstition and the fear of avenging ghosts had prevented any examination of the supposed grave, until now the spirit of investigation has dared to penetrate into its secrets. The result has been the discovery of a complete vessel of war, a perfect Viking craft, in which the unknown chieftain had been entombed, doubtless somewhere about 800 A.D.

Society of Arts.—The Council of this Society have awarded medals to the following gentlemen for papers read during the session which is just over:—Major-General H. Y. D. Scott, C.B., F.R.S., for his paper on "Suggestions for dealing with the Sewage of London;" A. J. Ellis, F.R.S., for his paper on "The History of Musical Pitch;" John Sparkes, for his paper on "Recent Advances in the Production of Lambeth Art Pottery;" Henry B. Wheatley, F.S.A., for his paper on "The History and Art of Bookbinding;" W. Holman Hunt, for his paper on "The Present System of Obtaining Materials in use by Artist Painters, as compared with that of the Old Masters;" Thomas Fletcher, for his paper on "Recent Improvements in Gas Furnaces for Domestic and Laboratory Purposes;" John C. Morton, for his paper on "The Last Forty Years of Agricultural Experience;" Professor Heaton, F.C.S., for his paper on "Balmain's Luminous Paint;" Capt. Abney, R.E., F.R.S., for his paper on "Recent Advances in the Science of Photography."

Old Plymouth China.—A brass has just been erected at St. Andrew's parish church, Plymouth, in memory of William Cookworthy, the originator of this much-sought-after, by collectors, old china. The inscription thereon is as follows:—"On the return of 100 years from his death, this tablet in memory of William Cookworthy,—born at Kingsbridge, April, 1705: died at Plymouth, October, 1780,—is erected by his great-great-grandaughter, Sarah Crewdson, of Kendal, A.D. 1880." Mrs. Crewdson herself is the daughter of another Plymouth worthy, Francis Fox, the philanthropist, who died in 1812. Mr. Fox built and endowed almshouses in the town, and was also the principal founder of the Plymouth Free Schools.

Sale at Welbeck Abbey.—On Saturday was concluded a sale, which lasted during the greater part of the week, of the extensive building plant which had been accumulated by the late Duke of Portland in the course of his extensive works at Welbeck Abbey. So great was his mania for building that from 1,200 to 1,400 workmen in the building trade were regularly employed on the estate, and three or four traction-engines were in regular use for the conveyance of material. The property left on hand at the Duke's death, and sold last week, including 20,000 ft. of English oak planking, 500 ft. of brown oak, 3,000 oak spokes, 10,000 tarred oak deal pitching, 100 tons of tramway rails, 200 metal flange and truck wheels, 100 tons of scrap iron, a wrought-iron girder-bridge, engines, boilers, brick-making and machines of a costly and varied character, &c.

Technical Schools.—The foundation-stone of the new Technical School at Bradford was laid on the 16th inst. by the Master of the Clothworkers' Company, who have contributed handsomely towards the erection of the buildings, which will cost 25,000*l.* Messrs. Hope & Jardine are the architects.——It is now announced that the City and Guilds of London Institute for the Advancement of Technical Education has definitely accepted from her Majesty's Commissioners for the Exhibition of 1851 a site for the Central Institution in Exhibition-road. The site is 300 ft. long, and is between the temporary French and Belgian Courts. The probable acquisition of this site was mentioned by us some weeks ago.

Prizes, King's College.—On the 18th inst. the prizes and certificates for the Winter Session 1879-80 were distributed to the successful students in the evening classes at King's College by General Sir Richard Wilbraham, K.C.B. The prizes given by the Clothworkers' Company to the students who have worked for the three preceding terms in the college workshops, and have exhibited the greatest proficiency therein, were awarded as follows:—G. J. Chapman, prize for metal-work; J. E. Dwelly and F. P. Williams, prizes for wood-work; E. W. Wiltshire and T. J. Hart, certificates of merit.

Statistics of Railway Rolling Stock.—A summary of the totals of rolling stock in existence in each country during 1878 is given in the *Railway Engineer* for June. The total number of miles of railway open in the United Kingdom is 17,333, and it is said that if the total number of engines and vehicle stock of every description in the Government returns, were coupled continuously, and, lineally, they would exceed a distance of 1,500 miles, or, expressing it in another form, there is one mile of stock per every 11½ miles of railway.

Birmingham.—The Government have recently taken on lease a piece of land fronting the new Corporation-street, Birmingham, for new County Court offices, to which, when complete, the officials in Waterloo-street are to be removed. The contract for the building has been taken by Messrs. J. Barnsley & Sons for about 17,000*l.*, and the works are to be proceeded with at once.

The Exhibition of Sanitary Appliances at the Society of Arts.—In the classified list of exhibits published by us last week, we should have mentioned the firm of W. Smeaton & Sons, of Moorgate-street, as large exhibitors of water-closets, including the "Eddystone." Their excellent cast-lead work for the Examination Schools at Oxford has been previously noticed by us.

King Stanley Church.—The westernmost window of the north wall of the nave has lately been filled by Messrs. John Hardman & Co., of London and Birmingham, with stained glass, representing—"The Woman preparing the Chamber for the Prophet," "The Salutation," "Anna at the Presentation," and "Mary and Martha."

"The Builder."—The continually-increasing growth in the number of pages contained in the annual volumes of the *Builder* compels us, very reluctantly, to depart from the usage of thirty-seven years, and we have therefore to announce that henceforth the *Builder* will be divided into half-yearly instead of yearly volumes. The present number will conclude our Thirty-eighth Volume, and the first number of our Thirty-ninth Volume will be published next week. The Index for the now-completed first half-yearly volume will be given with our number for July 10. New cases for binding the half-yearly volume are in preparation, and will be obtainable at the publishing office.

TENDERS

For new roads and pipe sewers at Tooting, Surrey :—

Anderson	£935 10 0
Martin	915 0 0
Rose	859 10 0
Pixley (accepted)	897 0 0

For schools at Walthamstow, for Rev. E. Bullinger :—
W. & H. Castle, Borough, accepted.

For new hotel at Willesden Junction, for Mr. J. Empson : —
Langmead & Way, accepted.

For premises, Nos. 283, 284, 285, and 286, Oxford-street, to be erected on the estate of the Duke of Westminster, for Mr. Edwin Hollis. Mr. Joseph S. Moye, architect. Quantities by Mr. A. F. Wrightson :—

Bird	£13,200 0 0
Manley & Co.	13,037 0 0
J. & P. Greenwood	12,997 0 0
Colls & Sons	12,845 0 0
Brown	12,272 0 0
Adamson & Sons	11,743 0 0
Grover	11,675 0 0
Saula (accepted)	10,072 10 0

For sewerage works, Saltley, Birmingham. Mr. E. Pritchard, engineer. Quantities by Mr. E. J. Purnell :—
Contract No. 1.—*Cast-iron Pipes, Earthenware Pipe Sewers, and other Works.*

Law, Kidderminster	£8,909 0 0
Rowson & Co., Stoke	8,729 18 10
Bell, Wood-green	8,295 0 0
Fawkes Brothers, Birkdale	8,106 0 0
Vale, Kidderminster	8,080 0 0
Burkett & Co., Birmingham	8,056 0 0
Vint, Leeds	7,990 0 0
Heaps, Birmingham	7,871 16 0
Dewitt, Leamington	7,778 0 0
Jones & Fitzmaurice, Birmingham	7,560 0 0
Nelson & Co., York	7,497 0 0
Hilton, Birmingham	6,791 0 0
Holland, Leicester	6,774 0 0
Tell, Leamington	6,675 0 0
Hill Bros., Briton Ferry	6,591 6 11
Pulmer, Birmingham	6,570 0 0
Currall & Lewis, Birmingham*	6,340 0 0

* Accepted.

For restoration of church, Newton Solney, Burton-on-Trent. Mr. F. J. Robinson, architect :—

Warner, Repton	£3,180 10 0
Hewitt, Leicester	2,923 0 0
Walkerdine, Derby	2,870 0 0
Lilley & Son, Ashby	2,859 0 0
Knowles, Brassington	2,708 0 0
Fisher Bros., Mansfield	2,710 15 0
Lowe & Sons, Burton (accepted)	2,650 0 0

For the erection of business premises and offices in the Earl's court-road, Kensington, for Mr. W. Follett. Mr. William H. Collbran, architect :—

Toten & Sons	£4,786 0 0
Willis	4,641 0 0
Mallett	4,150 0 0
Hunt	3,435 0 0

For work at Milton Club-house, Charles-square. Specification by Mr. J. Baker :—

Impey	£150 10 0
Goodman	97 0 0
Staines & Son	57 10 0
Parrish	55 0 0
Baker	52 0 0
Vince	49 15 0
MacCall	49 10 0
Tidmarsh	48 15 0
Downal	41 10 0
Moor	37 10 0
Carter (accepted)	35 0 0
Hutton	33 0 0

For Branch Free Library and shops in Deansgate, Manchester, for the Corporation of Manchester. Mr. J. Allison, architect :—

Davies & Maudsley	£12,882 0 0
Herd	12,497 0 0
Southern & Sons	12,390 0 0
Neill & Sons	12,368 0 0
Elms & Evans (accepted)	12,200 0 0

For erecting villa residence, Glebe Estate, Enfield, Middlesex, for Mr. A. W. Digby. Mr. W. J. Wood, architect. Quantities supplied by Mr. Geo. Sparrow Harrison :—

Castle Bros.	£1,590 0 0
L. H. & R. Roberts	1,479 0 0
Heath	1,389 0 0
Richardson	1,374 0 0
Finhead	1,300 0 0
Grover	1,275 0 0
Hampton	1,225 0 0
Angood	1,160 0 0
Smith	1,147 0 0
Shapley (accepted)	1,145 0 0
Wheeler Bros.	1,085 0 0

For alterations and repairs to the Albert Edward public-house, for Mr. W. C. Ginder, Bolton-road, St. John's Wood :—

Wade	£125 10 0
Adamswaite	119 0 0
List	110 0 0
Firminger	88 10 0

For the partial rebuilding of Holtby Church, Yorkshire. Messrs. Freeman & Naylor, architects :—

	Nave.	Tower.
Padbury & Son, Scarborough	£1,245 0	£305 0
Keswick & Son, York	899 4	154 16
Denison & Son, York	920 0	125 0
Brown, York	832 0	153 0
Creaser, York	811 10	173 0
Bailey & Son, York	813 0	167 0
Burton, Newcastle-on-Tyne	754 0	143 0
Rookledge, York (accepted)	736 0	124 0

For the erection of public hall and offices in the Spa-road, Bermondsey, for the Vestry of Bermondsey. Messrs. Geo. Elkington & Son, architect. Quantities prepared by Mr. Henry Smith :—

Josolyne	£27,476 0 0
Tongue	26,474 0 0
Battley	24,837 0 0
Thompson	24,775 0 0
Tarrant & Son	24,625 0 0
Crockett	24,619 0 0
Quinn & Co.	24,000 0 0
Little	23,878 0 0
Rider & Son	23,756 0 0
Howell & Son	23,695 0 0
J. & J. Greenwood	23,620 0 0
Messom	23,416 0 0
Nightingale	23,384 0 0
Harper	23,365 0 0
Cass	22,940 0 0
Dickinson	22,900 0 0
Taylor	22,836 0 0
Stephenson	22,733 0 0
Braid & Co.	22,614 0 0
Perry & Co. (accepted)	21,200 0 0

For the construction and erection, with all necessary seating and flues, of three Lancashire high-pressure boilers, each 24 ft. long and 6 ft. in diameter; a horizontal steam-engine, 8½ in. cylinder, and 16 in. stroke, with steam pipes from boilers, and bed for engine, for the new hospital being erected at Hope, near Eccles, Lancashire, for the Guardians of the Salford Union. Mr. Lawrence Booth, architect :—

Boilers, with Seating, &c.

Bland & Sons, Bury	£1,075 0 0
Fernihough & Sons, Stalybridge	1,046 0 0
Adamson & Co., Hyde Junction	1,040 0 0
Ormerod, Grierson, & Co., Manchester (Cornish boiler)	987 0 0
Chapman, Salford	960 0 0
Goodbrand & Holland, Manchester	937 0 0
Heywood & Duckworth, Radcliffe	930 0 0
W. & J. Galloway, Manchester	930 0 0
Ditto ("1875 Patent")*	900 0 0
Bradford & Co., Salford	917 9 6
Tangye Bros., Birmingham	828 10 0
Adamson & Co., Hyde	886 0 0
Goodfellow, Hyde	895 0 0
Nichols, Salford	850 0 0
Chadderton Ironworks Company	845 0 0
Hamilton, Woods, & Co., Salford (Duplex flued steam boiler)	840 0 0
Pollit, Bolton	840 0 0
Wilde & Co., Openshaw	820 0 0
J. & W. Barlow, Rochdale	770 0 0
H. & J. Ellis, Salford	720 0 0
Howarth, Rochdale	710 0 0
Tank and Boiler Company, Wolverhampton	657 0 0
Silvester, Newcastle (Staffordshire) (no boiler seating or flues)	578 0 0
Hutchinson & Son, Elton	550 0 0

* Accepted.

Engine, with Steam-Pipes, &c.

Hamilton, Woods, & Co., Salford	£165 0 0
Ormerod, Grierson, & Co., Manchester	163 0 0
Bland & Sons, Bury	150 0 0
Goodfellow, Hyde	125 0 0
Howarth, Rochdale	120 0 0
Goodbrand & Holland, Manchester	107 0 0
Barker & Co., Stalybridge	95 0 0
Chadderton Ironworks Company	92 0 0
Adamson & Co., Hyde Junction	90 10 0
H. & J. Ellis, Salford	90 0 0
Nichols, Salford	87 10 0
Bradford & Co., Salford (accepted)	84 11 6
Tangye Bros., Birmingham	78 0 0
J. & J. Silvester, Newcastle, Staffordshire (no bed included)	51 6 0
J. & R. Lees, Hollinwood	£40 and 50 0 0
Bates, Newcastle, Staffordshire (no bed or steam-pipes or delivery included)	35 0 0

For new Baptist Chapel, Monkhouse Common, Walthamstow. Mr. John Edward Sears, architect :—

		Without Galleries.
Woodward, Finsbury	£3,750	£2,318
Smith, Kennington	2,310	2,100
Abbott, Walthamstow	2,250	2,000
Higgs, Dorset-square	2,187	1,967
Probert, Walthamstow	2,100	1,900
Good Bros., Walthamstow	2,050	1,850
Allen, Kilburn (accepted)	1,940	1,690

For the erection of two pairs of semi-detached houses in Chalcot-gardens, England-lane, Haverstock-hill, for Mr. F. C. Bellamy. Mr. C. G. Mumby, architect. Quantities by Mr. H. Nixon :—

Patman & Fotheringham	£6,713 0 0
Heath	6,667 0 0
Hook & Oldrey	6,531 0 0
White	6,082 0 0
Langmead & Way	5,797 0 0

For the completion of the Gresham Baptist Chapel, Loughborough Park, Brixton. Mr. J. W. Stevens, architect :—

Macey	£1,551 0 0
Bolding	1,497 0 0
Smith	1,363 0 0
Marriott	1,290 0 0
Pearce	1,287 0 0
Taylor	1,247 0 0
Holliday	1,234 0 0
Pack	1,190 0 0

For foundations of new chapel in Commercial-road, London. Mr. E. Early Hollis, architect. Quantities by Messrs. Quilter & Hardcastle :—

Smith	£610 19 0
Harris & Wardrop	494 0 0
Morter	477 0 0
Dove Bros.	475 0 0
Bangs & Co.	463 0 0
Gregar	434 0 0
Andrews	300 0 0

For cleaning, painting, and distempering Portobello-road School, for the School Board for London. Mr. E. R. Robson, architect. Quantities not supplied :—

Webber	£403 0 0
Stimpson	315 0 0
Wall Bros.	307 0 0
Hook & Oldrey	297 0 0
Petchey	270 0 0

For cleaning, painting, and distempering Drury-lane Schools, for the School Board for London. Mr. E. R. Robson, architect. Quantities not supplied :—

Wall Bros.	£233 0 0
Hobson	209 0 0
Grover	209 0 0
Pritchard	202 0 0
McCormick	200 0 0
Hook & Oldrey	195 0 0
Pitman	129 0 0

For cleaning, painting, and distempering Wolverley-street Schools, for the School Board for London. Mr. E. R. Robson, architect. Quantities not supplied :—

Wood Bros.	£413 0 0
Willmott	395 0 0
Pritchard	385 0 0
Reed	362 0 0
Sheffield & Prebble	323 0 0
Hook & Oldrey	323 0 0
Smith & Son	289 0 0

For cleaning, painting, and distempering Old Ford School, for the School Board for London. Mr. E. R. Robson, architect. Quantities not supplied :—

Robey	£547 0 0
Willmott	385 0 0
Sergeant	348 15 0
Sheffield	317 0 0
Hook & Oldrey	294 0 0
Pitman	227 10 0

For the construction of street tramways,—4 miles, 7 furlongs, 5 chains,—for the Great Grimsby Street Tramways Company. Messrs. Davis & Emanuel, surveyors. Quantities by Mr. John Glenn :—

Weaver, Grimsby	£29,155 0 0
Julian & Co., London	26,570 0 0
Ransthorne & Co., Dewsbury	24,076 0 0
Shepherd, London	23,497 0 0
Godfrey, Hull	21,704 0 0
Dawson, Grimsby	21,566 0 0
Nowell & Robson, London	20,980 0 0
Biggs, Cardiff	20,750 0 0
Simons, Grimsby	20,515 0 0
Rendle, London	20,087 0 0
Biggall & Hewins, Grimsby*	19,400 0 0
Frayne, Birmingham	19,233 0 0

* Accepted.

For new vicarage house, &c., Kippington, Sevenoaks, Kent. Mr. J. Hooker, architect. Quantities supplied by Mr. Ladds :—

Shaw	£4,070 0 0
Macey	3,761 0 0
Brass	3,530 0 0
Morter	3,237 0 0
Wallis & Clements	3,228 0 0
Avard, Maidstone	3,210 0 0
McLachlan & Sons	3,187 0 0
Vaughan	3,147 0 0
Willicombe, Tunbridge Wells	3,057 0 0

For the erection of parish room at South Acton Vicarage, for the Rev. A. H. Dunn, M.A. Mr. Edward Monson, jun., architect :—

Hunt	£620 0 0
Waters	551 0 0
Penny & Durrant	550 0 0
Nye	548 0 0
Cowland Bros.	537 0 0
Baker	506 0 0
Shepherd	495 0 0
Maton	490 0 0
Cardus	475 0 0
Brunsden (accepted)	435 0 0

For house, Hampstead, for Mr. W. Crispin. Messrs. Spalding & Evans, architects :—

Burford	£2,130 0 0
Bangs & Co.	2,083 0 0
Cook	2,047 0 0
Roberts	1,881 0 0
Outhwaite	1,804 0 0
Gregar	1,739 0 0

For coachhouses, Pont-street Mews, for the Cadogan and Hans-place Estate (Limited). Mr. T. Heygate Vernon, architect :

Burningham & Co.	£607 0 0
Martin, Wells, & Co.	590 0 0
Pink & Co.	565 0 0
Scrivener & Co.	553 0 0
Shaw (accepted)	512 0 0

For rebuilding shop and offices, 27, Buckingham-street, Strand, for Mr. J. F. Thomas. Mr. H. H. Bridgman, architect. Quantities by Mr. F. Thomson :—

Kirk & Randall	£1,579 0 0
Scrivener & Co.	1,497 0 0
Manley	1,480 0 0
Burman	1,453 0 0
Crockett	1,450 0 0
Tarrant & Sons	1,379 0 0
Toms	1,340 0 0
White	1,289 0 0
Nightingale	1,287 0 0
Clemence	1,240 0 0
Hart	1,220 0 0

For new Foresters' Hall, Forest-gate, Stratford. Quantities not supplied :—

Sharp & Everard	£808 0 0
Gentry	798 0 0
North	795 0 0
Brittle	760 0 0

For alterations to houses, Union-row, West Ham Park, for the Rev. George Eastman. Mr. W. C. Livermore, architect :—

Marr	£253 0 0
Russell	227 0 0
Poulson	221 0 0

For alterations to house, Church-street, Stoke Newington, for Mr. D. Pash. Mr. J. Hamilton, architect:—

Smith Bros.	£743	0	0
Harper	664	0	0
Wood	615	0	0
Waite	490	0	0
Plowman	468	17	6

For erecting fencing and other works at St. Mary Abbotts (Kensington) Cemetery, Hanwell, for the Kensington Burial Board. Mr. Edward Monson, jun., surveyor:—

Contract No. 1.

Maton (accepted)	£296	11	9

Contract No. 2.

Maton (accepted)	313	16	0

Contract No. 3.

Maton (accepted)	319	3	7

For the erection of semi-detached residences on the New Southgate Estate. Mr. Augustus F. Wells, architect:—

For each Pair.

Hegarty (accepted)	£325	0	0

For Wesleyan Chapel, Shipston-on-Stour. Mr. J. Wills, architect:—

Attwood	£1,040	0	0
W. Pickering	1,026	0	0
Pickering & Son (accepted)	980	0	0

For Pwllheli sewerage. Mr. Thos. Roberts, engineer:—

Summers, Pwllheli	£3,860	0	0
Pritchard, Penrhyn	2,727	19	0
Jones & Co., Criccieth	2,655	19	0
Ellis Davies, Waenfawr	2,557	0	0
Griffiths, Criccieth	2,446	0	0
Morris, Carnarvon	2,397	0	0
John Jones & Co., Pwllheli	2,353	0	0
Spargo, Jones, & Co., Nevin	2,350	0	0
Hughes, Portmadoc	2,126	0	0
Williams, Bangor	2,100	0	0
W. Davies, Portmadoc	2,074	0	0
Thomas, Bangor	1,950	0	0
Owen, Portmadoc (accepted)	1,938	0	0
Pritchard, Portmadoc	1,852	0	0
Beardswell, Tremadoc	1,700	0	0

For rebuilding house and shop, No. 19, Church-street, Kensington, for Mr. Josiah Christmas. Mr. A. C. Richards, architect. Quantities not supplied:—

Woodward	£1,150	0	0
Langmead & Way	1,033	0	0

For extension of window-blind and revolving shutter works, Old-street, St. Luke's, for Messrs. Sam'l. Haskins & Bros. Messrs. Ford & Hesketh, architects:—

Drew & Cadman	£2,050	0	0
Crabb	2,036	0	0
Holland & Hannen	1,908	0	0
Perry & Co.	1,826	0	0
Lawrance	1,733	0	0
Colls & Son	1,724	0	0
Dove Bros.	1,700	0	0
Brass	1,675	0	0
Conder	1,642	0	0

For drainage works at the Cemetery, Nottingham-road, Derby. Messrs. Popplewell & Clarke, engineers:—

Tomlinson	£1,148	0	0
Walker	906	10	0
Harpur	866	13	5
Todd (accepted)	660	15	0

For the erection of boundary-walls at the Cemetery, Nottingham-road, Derby. Messrs. Popplewell & Clarke, architects:—

Wood	£803	10	0
Tomlinson	747	16	0
Walker	697	0	0
Todd	657	11	4
Walkerdine (accepted)	638	16	0

For the rebuilding and restoration (after fire) of 74, Fann-street, Golden-lane, for Mr. J. T. Ingoldby, M.D. Mr. W. Reddall & Son, architects:—

Higgs	£1,018	0	0!
Hobson	865	0	0
Eaton	846	0	0
Kilby	833	0	0
Woodward	790	0	0
Shurmur	774	0	0
Cook	610	0	0!

For the erection of a pair of cottages, Newquay, Cornwall, for the Duchy of Cornwall. Mr. Samuel Hooper, architect:—

Julian & Sons (accepted)	£480	0	0

For villa residence in the Woodford-road, Woodford, Essex, for Mr. W. Cole. Mr. J. W. Brooker, architect:—

	Portland Stone.	Less if in Bath Stone.
Egan	£2,350	£75
Battley	2,279	140
Staines	2,084	100
Wood	2,000	70
Morter	1,990	64
Harper	1,990	90
Sheffield & Prebble	1,973	60
Cullum	1,963	80
Redman	1,718	52

For residence and offices, &c., at Highgate, for Mr W. L. Hetherington. Messrs. Hetherington & Oliver, architects. Quantities by Mr. R. C. Gleed:—

	House and Offices.	Boundary Walls, &c.
Ebbage	£3,912	£187
Southcott & Co.	3,740	202
Toms	3,559	185
Wheeler	3,500	210
Conder	3,457	195
Downs & Co.	3,390	158
Morter	3,339	185
Lawrance	3,240	169
Green	2,989	167

For alterations and repairs to Nos. 4, 5, 6, & 7, Grosvenor-road, Westminster, for Messrs. Wright. Quantities by the architect, Mr. Budd:—

Lamble	£482	0	0
Foster	450	0	0
King	416	0	0

For the erection of a new school of art, Penzance, Cornwall. Mr. Silvanus Trevail, architect:—

Julian & Sons (accepted)	£1,250	0	0

For new schools and class-rooms, Salisbury, for the Methodist Free Church. Mr. John Wills, architect:—

Young & Sons (accepted)	£1,195	0	0

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